CRITICAL ENVIRONMENTALISM:

TOWARDS AN EPISTEMIC FRAMEWORK FOR ARCHITECTURE

A Dissertation

by

CRAIG KYLE ANZ

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2009

Major Subject: Architecture

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Approved by:

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ABSTRACT

Critical Environmentalism – Towards an Epistemic Framework for Architecture

(May 2009)

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Upon identifying the multifaceted and disparate array of ever-changing environmental informants to architectural discourse, one is confronted with *how* to unite this dialogue in meaningful ways to current modes of thought and action. The question gains more significance as our knowledge of the greater environmental domain becomes more systemic and complexly heterogenic, while at the same time, approaches to the issues have proved to be progressively more reductivist, disconnected, overtly abstracted or theorized, and universally globalized in regard to multifaceted and content-rich human particularities *in situ*.

This research focuses on the implications and applications of *Critical Environmentalism* (*CE*) to propose a corresponding epistemological framework to wide-ranging socio-environmental complexities occurring across architectural endeavors, primarily within urban and community developments as comprising the greatest number of intersections between human constructions and the greater environmental domain. *CE* addresses environmental issues reciprocally emerging across numerous disciplines

and theoretical stances and fosters critical and systemically collective approaches to knowledge integration, amalgamating multiple stakeholder perspectives within an interconnective and operational goal of creative communal development and betterment of the human condition in relation to environmental concerns. Situating the environment *(Umwelt)* as an interconnecting catalyst between divergent points-of-views, *CE* promotes a multi-methodological, co-enabling framework intended to foster increased ethical and participatory dynamics, communal vitality, co-invested attention, and productive interchanges of knowledge that cultivate an overall quality of knowing and being within the intricacies of the greater domain. As such, it engages broader definitions for architecture within its social community, significantly embodied and epistemologically co-substantiating within a shared, environmental *life-place*.

Fundamentally a hermeneutic standpoint, this investigation elucidates conceptual connections and mutual grounds, objectives, and modes-of-operation across knowledge domains, initiating an essential, socio-environmentally oriented framework for architectural endeavors. In this, it brings together common threads within critical social theory and environmentalist discourse to subsequently promote distinct interconnective components within a framework of socio-environmental thought for architecture. The research then provides case examples and recommendations toward stimulating progressive environmental initiatives and thus increased capacity to improve existing epistemic conditions for architecture, urban design, and community development within the broader scope of *Critical Environmentalism*.

DEDICATION

To God, the great creator, through which all unfolds and trancends. And with this, to my family who, in a time a fast- paced idealism and virtual substitutions for the world-at-hand, ground and remind me by their regular presence to stop and smell the very-real and authentic roses, to be gratefully empathetic and in-touch with the very-real of our daily experiences, and to never lose grasp of vital interconnections within our shared, life-place.

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION TO THE RESEARCH

If I were given one hour to save the planet,
I would spend fifty-nine minutes defining the problem
and one minute resolving it.
　　　　- Albert Einstein [1]

The epistemic consciousness is the history of the field. And it is clear that, to secure
some chance of knowing what one is doing, one has to unfold what is inscribed in the
various relations of implication in which the thinker and his thoughts are caught up, that
is, the presuppositions he engages and the inclusions and exclusions he unwittingly
performs.
　　　　- Pierre Bourdieu, *Pascalian Meditations* [2]

I believe the truth about any subject only comes when all sides of the story
are put together, and all their different meanings make a new one. Each writer
writes the missing parts of the other writer's story. And the whole truth is what I am
after.
　　　　- AliceWalker, *In Search of Our Mothers' Garden* [3]

***Prolegomema*: Introductions to a Co-Substantive Framework**

 Critical Relationships As Formative To *Critical Environmentalism*

　　　　Upon identifying the disparate facets of an array of critical and ever-changing

environmental factors informing the epistemological framework for architectural

discourse[4], the question arises as Necdet Teymur asked in his 1982 *Environmental*

Discourse, "What is it that unites [this] immense [and discursive] variety of discourse

that can be found in environmental discourse,"[5] and *how* are we to critically assemble

this discourse, albeit in significantly viable and meaningful ways to current modes of

thought and action within our shared *life-place*.[6]

_____

This dissertation follows the *Chicago Manual of Style* as incorporated by the *Journal of Architectural Education*.

This question gains more significance as our knowledge of the greater environmental domain we collectively inhabit becomes more discursive, systemic, changing or fluxing, and complexly heterogenic, while at the same time approaches to the issues have proved to be progressively more reductivist, disconnected, overtly abstracted or theorized, compartmentalized, and universally globalized. These approaches are often counter to the multifaceted and content-rich realities (actualities) of the overall environmental condition as well as to the particularities of our human state-of-affairs and its well-being.[7] While there are ever-pressing environmental issues occurring at the ecological, meteorological, geological, geographical, and biological levels, *et al*, we are also at a loss culturally, socially, economically, personally (identity associated), intellectually, and even spiritually, all of which equivalently and simultaneously form various aspects of our knowledge and being (ontologically, our relation) with(in) the environment at multiple levels of engagement. Our ability to negotiate significant and meaningful sense of the world-we-know, our own embodied *life-place* that co-substantiates our collective knowing and being is becoming potentially less attainable, while hand-in-hand our environmental problems are becoming overwhelming. While we may seem at first to understand the complexities of our environmental crises at fundamentally physical levels, the social and cultural crises have been given less priority, which essentially or ironically may be at the very root of our environmental dilemmas. How we know (epistemically) and interact within the world may unwittingly be causing us and the environment undue harm in a reciprocal manner. It is such that what is generally accepted as simple, straight-forward or so-called 'clear-

cut' solutions or concepts cannot logically come close to addressing what may be termed as more of an 'ill-defined' (densely- or multi-defined, with respect to Herbert Simon and Necdet Teymur) or even better as disparately multifaceted (multidimensional), highly complex networks of problems. There seems little parity or correspondence between facets in relation to the actual state-of-affairs where problems reside and require equally complex solutions from broad ranges. Because the co-effective relation between human conditions and environmental issues currently being faced are becoming increasingly complicated and multifaceted, we are mandated to critically correspond with multi-modal and knowledge-integrating methodologies, despite how they may seem to 'fit' or be understood within what has now has become an overtly procrustean or dominating sets of epistemic conditions.[8] This research argues that this may be better achieved in part by emulating the complexly holonic, organic, interactive, and reciprocal structure of a *total socio-environmental* framework as a fundamental mix of critical *socio-cultural* and *ecological* modes, motivated by and negotiating broad ranges of disciplines and perspectives for how we consciously engage design inquiry, analysis, and application within the places we co-construct and -inhabit. To address our collective concerns not just toward the initial environmental crises-at-hand, but toward a state of overall well-being (desiring potential bliss and happiness), we are mandated to work together in how we construct our world in a corresponding, reciprocal, and holistic fashion toward common socio-environmental goals and needs.

The content of this research focuses on the implications and applications of *Critical Environmentalism* in order to propose a viable and enriched epistemological

framework[9] for architecture (a distinctly socio-environmental art and practice), but more specifically relating to its applications within urban design and community developments as comprising the greatest number of intersection between human constructions and the greater socio-environmental domain. While *Critical Environmentalism* revolves around common socio-environmental subject matter currently emerging across multiple and varying disciplinary domains (inclusive of social, cultural, ecological, philosophical, *et-al*), it has not yet formally become an essential part of mainstream architectural discourse. The basic notions of the *Critical Environmentalist* position across multiple disciplines have the main connective and definitive goals of continual and multifaceted reassessment of humankind's essentially complex socio-communal and constructive relationships (compositely linked with knowledge, meaning, and making) with(in) the total environment.[10] Assessing these relationships (or intersections) between human the condition, its co-constructive actions, and the greater environment as themselves key conceptual components of an epistemic framework (presented later in the research) endeavors to develop increased potential for continual co-substantiating benefit, creative intellectual advancement, and mutual well-being for all participants (shareholding agents) within the ongoing processes of architectural productions, co-developmental growth, and their relations within the greater socio-environmental domain. While the overlaps between concerns are always intrinsic to the problem (always-already there), it is argued here that the dichotomy between multilevel human affairs and environmental issues (or the self and world or cosmos), particularly in architecture, are not generally reconciled into a singular set of

usable parts corresponding to the holistic issue, much less incorporated as underlying the basics of creative intentions and their eventual products. As such from two fundamental sides of the equation, this research distills essential epistemological categories from the *critical social sciences* (critical social theory and post-structuralist analysis as it relates to the human social condition and the co-construction of knowledge) and *environmental discourse* (our continual, cordial relationships within the natural world). After review of these significantly informative fields of knowledge, interconnective components, as basic units of a corresponding epistemological framework will be juxtaposed and described in relation to architectural discourse and its applications in urban and community developments. However, fundamental concepts, problems, and premises (often disparate and divergent) need to be brought to the table and systematically sorted in relation before any corresponding proposal along these multifaceted lines can be made explicit.
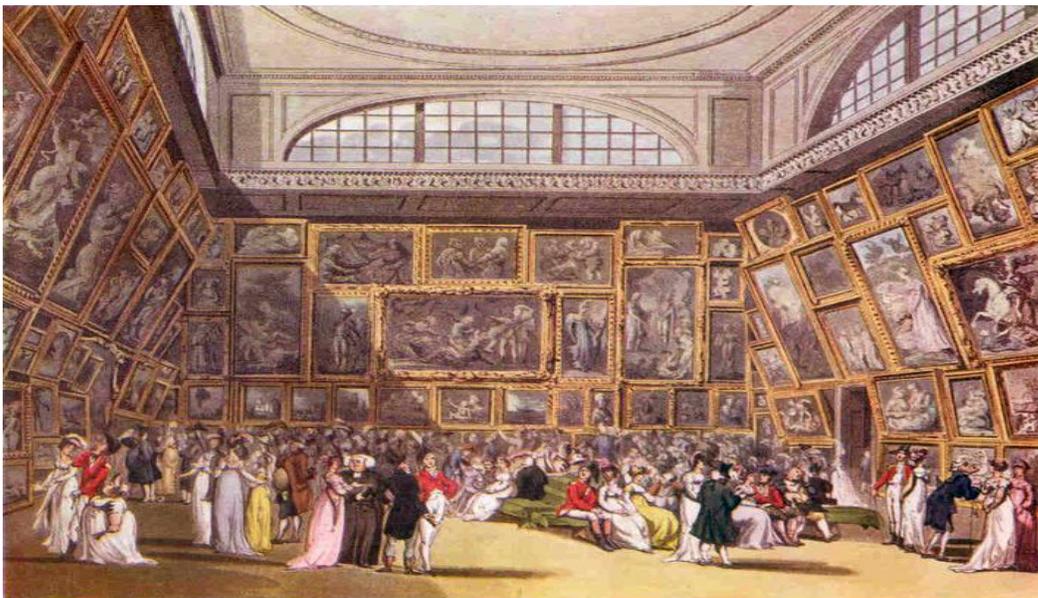
Figure 1.1: *The Exhibition Room at Somerset House* by Thomas Rowlandson and Augustus Pugin (Representing an Extraordinary Diversity of Views in One Place).[11]

Within this research, the overall relationships between human conditions, the socio-communal, the built environment, and the greater environmental domain are viewed as our total, shared *life-place*, that which is composed within a complex, interdependent (interconnected) and systemic, but often problematic array of multivariate environmental components affecting the ways in which we know and live. It is inclusively that which we multiplicatively co-inhabit, co-substantiate, and infuse with meaning(s). Analogous to the image in Figure 1.1, our world-image (*Weltanschauung* [12]) can be seen as a gallery consisting of a lot of discursive and rich interpretations, albeit sharing one dynamically charged spatial condition. But, unlike our gallery as initially viewed as just a picture, we realize there is more at stake. Beyond the metaphor of a simple gallery, the image is more of an intricate, shifting, co-effective framework of affairs, wherein no approach is stand-alone and thus requiring critical negotiation between its multiples playing within total set of conditions. In this, we are not only interested in the overall image of which we have initially framed, but with the multiplicities that are contained in every participant's interpretation, the characters or identities within the space, the many pictures that are composed within it, the many dialogs that may be going on about them, and what may be occurring from even outside the picture, others pictures, as well as our own or even the original author's intentions and interpretations. It is much more than just a picture. Three are pictures within pictures, and stories within stories (interpretations and narratives expanding each point of view in depth and meaning). Each view in the gallery is in itself monadically engaged with the others and with the whole, co-substantiating the total image, an active forming

life-place. Each picture tells its own version of the story and every story must be included in the gallery for the gallery (a trope for our life-*place*) as a whole to have intrinsic momentum (to operate) and substance (authentic meaning and value).

However, the actualities of the socio-environmental issues-at-stake, outside any singularly or abstractly framed condition, are very-real, multifaceted, and directly interconnected with our lives at many levels.[13] The picture becomes intrinsic and highly problematic to our very life and well-being. Because of the overall discursive and unpredictable nature of socio-environmental concerns, there are many approaches and no simple answers to the complexities of issues we face. The discourses involved in this subject-matter are extremely complicated, dense, and often difficult to effectively navigate into easily identifiable singular approaches without also cross-referencing or intersecting with many others. The subject-matter revolving around this multifaceted problematic is equally discursive and as such 'ill-defined' (densely- or multi-defined[14]) and seemingly un-addressable from any one perspective, thus requiring holistic, architectonic, and critically engaged thinking (in need of equally dense or 'thick' descriptions).[15] The problematic issues-at-hand are in essence, linked epistemologically and ontologically[16] – that is, involving *how* we *know* this environmental dynamic (interpreted at multiple levels) and *how* our multiple knowledges form our collective being, experiences, and relationships (ontologically) with(in) it. This is particularly of concern within the co-constructive, participatory development of our living centers, as in urban design and community development where multiple environmental issues intersect and come to bear. This dynamic array of environmental components that set the

conditions for knowledge and life can be seen as either obstacle or as an *Urspring* (a well-spring, rich palette, or source of wealth) for creative action and emancipatory development. Naturally, it is particularly the problematic of which we are initially (and typically) concerned, but also we endeavor to understand how this complicated nature can be turned into creative and extraordinarily co-substantiating and beauty-forming (aesthetic and ethical) means of enriched, authentic experience, vitality, and overall well-being.

As an overview of this introduction, the research builds holonically from the idea that architecture, as a socio-environmental practice, forms a distinct facet of the built or constructed environment and creates particular meanings and effects, thus also carrying ethical capacities. This built environment forms together within a vital array of physical, cultural artifacts, our socio-cultural experiences, and our individual ways of knowing and inhabiting our *life-places.* Urban or community developments emerge from dynamic and contextually driven social interactions, with architecture playing a vital, reflexive, and effective role. While socially formed from broad knowledge-bases and multiple interpretations coming together along common goals, these developments must also engage an even larger and dynamic domain of greater environmental concerns. In fact, these are what we can fundamentally characterize as our civilized capacities: the ability to work together as stakeholders in a singular set of goals, to make meaning, and to creatively better the conditions for life as we know and experience it (gentrified from a 'wild' or untamed, unnamed, primitive or natural state).

However, the greater environment, as also with the socio-cultural and built environments as key aspects within it, presents a complex and discursive array of epistemic and interpretive perspectives that intersect systemically and interdependently with how we develop ourselves and our inhabited *life-places*. As part of the co-forming bigger picture, when architecture plays its distinct role at an urban or community development scale, its positive effectual capacities are increased when it find its mediative or reflective, spatial 'fit' within this broader, composite epistemic range of socio-cultural and environmental affairs. On the other hand, if it becomes out-of-place or ill-placed, its effect can be devastating. Its context and the dynamic therein are immanent to its existence and viability. How we consciously negotiate and understand our place within this dynamic is a significant and necessary endeavor for our future well-being. In the middle of this, it seems the multilevel, interpretive social aspects are often overlooked as key to negotiating between our individual identities, our creative capacities, the built environment, our communities, our social structures, and their intersections with the greater environment. These aspects together form basic impetuses for architecture and community development alike; the individuals as active agents that experience, inhabit, and enable place, the socio-communal dynamics, and their relation to the environment at a total set of conditions. In addition, we are concerned with the operational dynamics of how our *life-place* is socially constructed as a composite of its discursive parts, its multiple interpretations, and how it forms our significant experiences and meanings collectively. It is simply composed from multiple perspectives.

As such, the research presented here will be in essence an introduction (*a prolegomena*) to a quintessential, multi-faceted approach for architectural discourse that fosters critical and inclusive approaches to design thinking, amalgamating multiple perspectives along communal socio-environmental goals. There is a greater domain of knowledge outside architectural discourse that could significantly inform a more responsive and corresponding framework for its endeavors, especially in complex settings. The work seeks to let a unique, theoretical model emerge that can significantly inform a progressive socio-environmentalist perspective for architecture by critically cross-pollinating and catalyzing divergent perspectives along interconnective modes (intersections). As essentially an epistemic study, it revisits and merges key conceptual aspects of *critical social theory* and *environmentalist* ideologies to identify a sort of 'lay of the land,' a 'grounding' of key principles or concepts (fundamentals or components) within something we can call a '*Critical Environmentalist*' framework for architecture, primarily with how we co-effectively and co-constructively engage our *life-place* at the urban and community development scale. Environmental issues become of primarily concern particularly for architects within the design of these settings, which require critical and multi-methodological approaches for negotiating mutually beneficial rapprochement between multivariate environmental concerns, socio-cultural human conditions, invested stakeholders, and individual identities, etc. Identification of these disparate variants, along their desires and roles (agency-network), as components of a total environmental condition is the primary means for establishing any form of multifaceted mediation (itself a distinct component) and thus vital to a critical position

toward environmental concerns. From this overall introductory position, the projected

Critical Environmentalism framework fosters three (4) fundamental premises

negotiating environmental, sociological, architectural, and subsequently urban design

and community development endeavors as a composite focus. These premises are

followed by corresponding problems and associated approaches leading to a formulated,

composite theoretical position for architectural endeavors.

Introductory Premises

The Multi-faceted Environment and Its Discontents

There is no saving the environment from a suffering humanity.
        - Paul Hawken*, The Blessed Unrest* [17]

   First, the research considered the environment as much more than simply a

'surrounding world' or ecological 'green' space. The environment (considered from the

Germanic notion of the *Umwelt* [18]) is in reality a telluric, dynamically complicated,

interdependent, interconnected, and systemic *life-place* composed of many

simultaneously co-substantiating facets (individual, epistemological, social, cultural,

biographically, (meta)physical, ideological, axiological, ontological, semeiological,

ecological, biological, geographical, architectural, etc. as all constructions are tied in

with the environment at varying levels) assembled together in a total set of conditions

for life, knowledge, experience, meaning, value, well-being, and sustenance. There may

be in essence one environment, but it is a multifaceted composite and a meaning

generating *life-place* for its many inhabitants. It is an inclusive and dynamically

continuous, spatial life-providing condition wherein multiple agents (and their

capacities) at multivariate levels engage (interact) and co-form these varying

knowledge(s) (and its meanings), each revolving around environmental issues at varying

levels. Therefore, it is a fundamental epistemological condition; it is both *what* and

fundamentally at the heart of *how* we know. Many divergent agent-participant stake-

holders (biological human and non-human, embodied self(s) (identities/personalities)

disciplines, communities, institutions, etc) compose, share, interpret (know), and engage

the environment collectively and communally at multiple levels. Although

environmental problems are shared, interconnected, and known universally, they are also

particular to many distinct and different contexts, situations, geographic or ecological

locales (places), times, and the unique dynamics of the individual indigenous

participants and forces involved, therefore differentiated across our globe. Within each

particularity, however, there is still interconnected dialogue (spatial and communicative

interplay) at a universal and global scale and effect. Each stakeholder is places

dialogically connected to other stakeholders, both locally and globally. Significantly to

the nature of the environment, to function as a systemic whole, all environmental

components require mediated and balanced interplay (parity) between components.

The Socio-Environmental *Life-Place* for Humankind

Second, the research assumes that environmental problems (in multiple) can

never be detached from the corresponding human condition, as the distinctly knowing,

acting, producing, and defining intellectual and intentional agency.[19] Far from a simple

relation, humans are a complicated part of, participants in, and depend on the

environment in sustaining life (and how it forms our experiences) at multiple levels. The

environment is essential for life (and forms our epistemological disposition), so

destruction of it is fundamentally a destruction of one's self and the potential for being and knowing. Even within the sciences of complexity theory, Otto Roessler, famed author on the subject, argues that going back to Anaxagoras (ca. 500 BC), there is the intrinsic inseparability between the greater universe of occurrences (and concern) and humankind's experience and imaginability of it. In this, there is discussion along the lines of an acknowledged dialogical relationship *with* the cosmos or in light of this research, the greater and more direct environment within which we inhabit and derive meaning. C.S. Peirce also brings this idea to light in terms of 'continuance' and consilience (as in his version of the Kantian 'architectonic') of our knowing and being within the greater domain of being as essential. Creativity requires a universally benevolent and empathic mind that reaches its greatest potential when situated and saturated in the rich complex, greater domain for knowledge. To Peirce, a natural connection within this 'continuity' of greater domain provides the same virtue of 'continuity' to our ideas and actions. In addition, the relationship of human self (as knowing, intellectual and acting agent), its communability and socio-environmentally formative mode, the reconciliation between our knowledges within a framework of affairs, and their place with(in) the greater environmental complexities can be embraced as a key part of substantiating one's own identity and creative endeavors, raising them up to an equivalent level of meaning and value. Similarly to the well-noted architect and hermeneutic-phenomenologist David Seamon, "People and the environment form an indivisible whole."[20] Our selves, our many knowledges, our perceptions and

experiences, everything we do and make, and the spatio-epistemic condition from a singular, but multifaceted, co-effective, and inseparable whole.

Concern (care) and understanding for the environment in large is in essence the same for ourselves (as agents) and our capacities (with active agencies) within it. Since environmental problems are essentially also human-condition problems, there can be no separation between a multitude of human activities (i.e. thinking, knowing, social relations, creative action, technological incorporation, physical productions, social-cultural manifestations, *et-al*[21]) and the environmental *life-place* that reciprocally forms the totality of conditions for things, meanings, and values[22] to be mutually understood and acted upon.[23] Our knowledge of and counter to the environment itself (as with Environmentalism itself) is also socially constructed in relation. From this, it can also be said that all human endeavors are learned and acted upon *socially* and are structurally interconnected in reference to and interdependent with(in) the multiplicities of greater environment. Human condition issues (social, economical, political, cultural, communal, *et al.)* co-substantiate environmental problems as social injustice is often paired with ecological problems occurring at multiple scales, particularity in our urban and community concentrations. The human condition and its activities are distinct environmental components, especially when collectively drawn together and shared as a communal concern or common goal. It is the human condition, our knowing, our social and communal action, and our relationships within the world that we are initially concerned with in regard to environmental issues and thus that which becomes the primary stating point for this proposed position.

To many in critical socio-cultural studies, knowledge (in general our episteme) is considered a systemic and interdependent, albeit inter-subjective framework by which we understand reality. There is co-affection between multiple agent-stakeholders, each interpreting the greater environment as both conditions for knowledge and material resource. From a modern, critical social theory standpoint, we are essentially concerned with *epistemological* aspects (the origins, nature, hegemonies or dominant institutional structures, validities, applications, and interactions of knowledge, in essence *how* we know and interact environmentally) that are developed from the socio-communal frameworks of knowledge[24] in effective relations within-in the systemic and multifaceted, environmental *life-place*.[25] In this, there is concern at essentially the sociological level with multiple agents, their many interpretations, their accountable epistemologies, their critical awareness, their embodied actions, their inhabited communal sociability (with other agents at multiple levels as equal, emancipated, and acting stakeholders within their shared communities), and their collective ability to construct (or produce, manifest, or make meaning) their versions of the world, while also negotiating multiple methodologies and assessments of their effectual capabilities as key aspects of environmental concerns. Critically, we have to understand that our own knowledge may in essence be flawed or disparate in its corresponding relation to the environment to be able to begin to negotiate through other means of validation of how we may begin to correct that flaw. Because of the dynamic and multifaceted environmental condition, each facet and their relationships to each other have numerous epistemological implications that manifest in many varying interpretations and

approaches to otherwise shared (co-validating) environmental conditions. We are essentially linked within a co-substantiating and co-relational framework that mandates conscious and continuous negotiation and reciprocity in order to achieve a sense and parity and balance between its assembled composite (*ars combinatoria*). Things and ideas, as with people and their productions, work best when they are substantiated together with others within a holistic framework of occurrences.

The Environment and Architecture Are Co-substantiating

   Third, as the modern state of humanity is a complicated, but problematic web of relations (i.e. epistemological, social, cultural, technological, communal, economical, ecological, *et al.*), the built environment (bound and substantive to the human culture) is being drawn from it at multiple scales as distinct and co-effective facets of the total, environmental *life-place*. It alters the greater environment at multiple levels by incorporating material resources while also creating aspects of our shared, socio-cultural and communal *life-place* (for better or worse). There is little need to reiterate here the well-known grandiosity of effect the built environment has played in environmental concerns, except that we can also lead effectually toward possible co-beneficial and extraordinary experiential solutions. As a key feature of the built environment, architectural endeavors play a distinct role and by its definitive nature is a systemic, socio-environmental practice and art – that is, *architectonically* like its greater epistemic domain, it inherently and fundamentally also involves multiple agents and their knowledges in dynamically socio-cultural and spatial interactions within and co-effectual of environmental conditions. It is a profession that is formed architectonically,

and definitively, within systems of knowledge. It is both bound by established (*a priori*) knowledge and is dynamically knowledge creating (*a posteriori*). Substantiating its own, architecture emerges from multiple, simultaneously working knowledges while generating knowledges anew (constantly re-creating itself within the epistemological dynamics). It creates abstracted versions of how we know the environment and how we socialize within it, thus it also negotiates how we know ourselves. As socio-cultural as well as environmentally grounded, architecture is a distinctly intersecting and reflexive (with respect to Pierce) discipline between aspects of the built cultural environment and the natural environment. In essence, architects simultaneously play a distinct role *how* we know the environment, *how* we spatially interact and co-effect, and the nature and quality of culture and life with(in) it.

Critically, as with the greater environment (cultural and natural), architecture can be problem-generating as well as creative, substantive, and solution-oriented. Pragmatically and again definitively (how it is known by its nature of operation), architectural design is intrinsically part of reflexive interdisciplinary and participatory processes which attempt to check itself though multiple knowledges, standards, and the perspectives of others. It negotiates insight and understanding between points-of-view within the greater environment. The issues therein are intrinsically linked with corresponding social patterns and community interactions, where meanings and habits are mutually learned, acted upon, and thus significantly *shared* as a single set of conditions. Since socio-human practices are linked to environmental conditions, architecture (particularly at these levels of engagement) must endeavor in-kind to play a

critically positive and mediating role in the socio-spatial productions of the built milieu

their relations within a greater epistemic domain for environmental endeavors. Engaged

with a vital, socio-epistemological framework, the success of architectural endeavors is

critically judged within a systemic framework of affairs; therefore its relation to critical

social praxis and its *place* or 'fit' within and throughout the greater, shared environment

is essential.[26] These notions lead the discussion of architecture and the built

environment *per se* into the extended domains of urbanity, community development, and

its greater socio-environmental implications as interwoven.   As exemplary of these

overall notions, Kevin Lynch states it best in his introduction to *The Image of the City*,

where he eloquently states: "A vivid and integrated physical setting, capable of

producing a sharp image, plays a social role as well.   It can furnish the raw material for

the symbols and collective memories of group communication. A striking landscape is

the skeleton upon which many primitive races erect their socially important myths. [27]

Beyond primordial semiotic reasoning, he also attributes architecture within urban

settings as providing "a good environmental image [that] gives its possessor an

important sense of emotional security [and] can establish a harmonious relationship

between himself and the outside world. To Lynch, "This is the obverse of the fear that

comes with disorientation. [...] Indeed, a distinctive and legible environment not only

offers security, but heightens the potential depth and intensity of human experience. [...]

Potentially, the city is in itself the powerful symbol of a complex society." [28] These

notions place particular significance on understanding the reciprocal relations between

our lived urbanity and its co-enabling capacities within a framework of human affairs.

Urban and Community Intersections

The above premises outline a scaffold upon which a *fourth* and significant feature can be formulated as a distinct composite, which in essence becomes the central focus of concern for what this position believes to be really at stake (the root of the matter in composite). For architects, urban design and community development settings (at multiple scales) represent the most complicated nature of our *life-place* because they comprise the greatest array of intersections between human conditions, their knowledges along with their many productions, and the broad and varying ranges of environmental facets and co-affections; therefore, they are of primary concern. Beyond a discussion of just 'buildings' *per se*, urban design and community developments involve spatial relationships between buildings and extended dimensions associated with an inhabited landscape of human affairs and their active interplay within the greater world order and its problematic issues (resources, movement, ecology, bio-systems, etc.). Urban environments in particular are composed of the greatest number of agential stakeholders and as such emerge within the most complex intersections of socio-environmental viewpoints and their constructed manifestations. They represent the greatest, most concentrated, and most lasting of human enterprises, where all human productive capacities (and resources involved) come to bear within any single geographical location or in essence the creation of *place*.[29] In a discussion with William Hillier at the University College London (UCL), Bartlett School of Architecture, he states (paraphrased) that cities are the largest and most complex artifacts of human production.[30] To him, they represent emergent and compound, organic multiplicities of

patterns (systems) operating within a seeming infinite array of combinations and intersections. As such, like the very discursive nature of the environment, they require a compilation of multiple viewpoints (stakeholders and associated disciplines of knowledge), a collective understanding (holistically informed), and communally operative modes (collective action).

In addition, from this it can be said that these settings form best when formed inclusively, relationally, and by natural or immanent progression of their specific arrangement of constituents within their particular contexts. The growth of the emergent self(s) (embodied and knowing agents), their emplacement within their emerging society, and the formal structure of urban life are also simultaneously aligned with an ever-emerging environmental condition.[31] Urban fabrics and all their dispositive components at multiple levels are essentially built (or destroyed) by conscious human interactivity with(in) an dynamic and interconnected environment. These dispositives, at multiple scales, also correspond with like components of a structured episteme (how we know and manifest knowledge) and framework of beliefs, all manifesting in physical facets of the conditional domain (with respect to Foucault) and effectual of the greater environment. It is within our urban and community settings, where humans effect the environment and the environment affects humans most that we stand to make the most beneficial effect toward the crises we face.[32] In our lived, urban settings, we form how we know at the same time and we are conditioned by what is already there.[33] Here, environmental effects occur at multiple levels, but primarily at the intersections between socio-cultural and ecological facets (fundamental dualistic relation) where they can

become extremely problematic and/or life-enhancing. A loss or gain in either side of these basics facets can synonymously be paired with a loss or gain in the other. As basically diagramed in Figure 1.2, urban design and community development negotiates between complicated human and environmental relationships that are affected by a fluxing array of forces and conventions, stakeholders and individuated desires. This level of engagement also involves an understanding of the dynamic interchanges (both knowledges and resources) between urban conditions, townships, communal and regional conditions, suburban edges, rural or agrarian communities, and the untamed of the 'wilds,' oceans, marshlands, or forest regions. Because of their scales of potential effect, these multiplicative intersections play a particularly active role in environmental concerns as well as in the creation of our distinct places and cultures. An informed and corresponding understanding of this complicated nature is thus essential to our active engagement and creative articulation within architectural endeavors.

Although the ideas of cosmopolitanism and urbanity imply global and universal notions, encompassing diverse readings of the fabric, architecture essentially endeavors to also cultivate the specificities of place and context, especially in regard to significant environmental dynamics that occur with particular contexts or locales. The uniqueness of each human place is composed of distinct, but multifaceted socio-cultural and geo-ecological constituents and their relations. Urban settings, in particular, require their own set of dynamic conditions which form it and should be co-enabling and co-substantiating with the unique character of their inhabitants (each an aware self or personality). Here, the architectural designs of our urban places play a distinct role to

critically negotiate, correspond, and preserve this dynamic with inter-subjectivities and localities of *place*, while also forming the continuative foundations for culture and identity. Paradoxically, following Paul Ricoeur, participation in modern, universal civilization need not leave behind, but should continuatively (re)surface and embrace the rich, inherent epistemic sources for our interpretive thinking and thus our continued creative, intellectual development. As society and its relation to the environment becomes potentially more complex, architectural endeavors must emerge from synthesizing pluralistic, diversely interactive social contexts and systemic processes that foster a productive and effective interchange of ideas from broad ranges to consequently respond with significant courses of action with(in) the greater, immanent environmental domain.
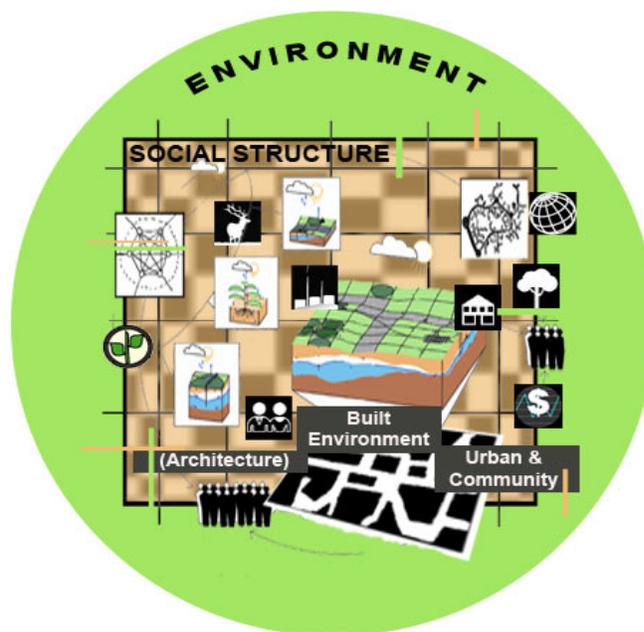
Figure 1.2: Relationship Diagram of Environment, Social Structure, and Architecture.

Introductory Problem Statements

  Multiple Environmental Crises and Disparate Social Epistemes

From the above premises, a series of problematic and disparate relations can be brought forth that can lead toward a possible corresponding framework of approaches for architectural endeavors. From the same overall telluric, multifaceted and complicated nature of the environmental components emerges a corresponding and convoluting array of knowledge domains. These many varying knowledge domains are for the most part identifiable, especially in regard to distinct environmental goals, as with architecture, but remain disparate and disconnected in their relations, the result of epistemic and ideological incongruence.[34] The many knowledges and forces that coincide and co-(in)form each other with(in) our environmental life-place are not in critical correspondence with each other (socially) nor with the complicated nature of the environment. The connective loop between our knowledge (how we know the world) and the environmental *life-place* is tenuous and often not directly substantiated, hence primarily an epistemic problem. With this, there is dichotomy and disparity (separation and disconnection, imbalance) between many overtly singularly associated, reductivist (global/universal) theorized, and/or abstracted, perspectives and their direct situational relations to an enlarging realm and complication of problems within our overall environmental life-place.[35] As such, simple or reductivist solutions to these issues have 'simply' proven inadequate.

From a human condition standpoint, critical collaboration and agreement between domains in an interdependent framework could have a more positive effect on

the overall operational, interconnected, co-substantiating nature of environmental issues, but instead perspectives compete and counteract, thus preventing affective action across the table and in-turn causing harm to each other and the overall picture in essentially the same endeavors. Since differing agents and communities of inquiry (stakeholders) interpret and act in divergent, disparate, and often conflicting ways often overriding each other while also effecting the environment (as with damage to the social fabric) in adverse ways. Dominant, singular, or reductivist views (often Western or Colonialist dominated) often are often privileged over others, overriding and leaving many views unrepresented in their wake that could have been otherwise part of more viable, multi-level modes within a greater, complex and inclusive framework.

In addition, while the complexities of overall concerns increase, there is little reconciliation between global and local socio-cultural environmental conditions. Problems are not critically or inclusively addressed in regard each unique situation and context, wherein no singular, exterior (or proxy, substituted) approaches applies. Instead, each problematic (locale, situation) is treated from an individuated, reductivist or even procrustean perspective, promoting, often violently, a state of idealistic conformity, with little regard toward the particularities of place and the dynamic of their participants as critical to the creation of their places, identity, and significant experiences or understandings where no singular approach applies. This happens both in regard to global solutions that could inform local conditions as well as with local particulars which could inform other locales on a global scale. Unique identities, characters, meanings,

values, approaches, and ethical relations (axiological) can be overridden or lost to global, universal modes that could otherwise be useful globally.

Distinct socio-cultural localities and identities can become absorbed or simply dissolved and knowledges lost. The identities of the stakeholders (knowing and embodied agents) and distinct locales are often dissolved within the problematic and disparate framework. Rich, co-substantiating socio-cultural palimpsests which could have provided more substantial epistemological frameworks of meanings continually renewed, as well as solutions to environmental issues, at multiple levels become irretrievable losses in a globally scenographic, universal, and flattened view. It seems the significance for the vertical dimensions of human understanding and experience are being succumbed to an overtly horizontal, reductivist, and generalizing mode. With an increasing complexity of environmental components and their relations to the human condition, there is a decreasing ability for the current means to critically manage such a radical changes (reciprocal relation) in usable and meaningful ways. The socio-cultural, primarily human, aspects are not emphasized as critical to reconciliation between conflicting epistemic differences between the multiple facets. No apparent meditating approach or method toward reconciliation or integration between disparate modes of knowledge and practices that could otherwise co-substantiate each other toward greater domain.

Architecture and a Problematic Relation

Our time suffers from its inability to control or organize the possibilities that has itself produced.
	- Siegfried Gideon, *Space Time and Architecture,* 1941 [36]

Architectural education has suffered too long – consciously or not – from the lack of written material concerning its foundations, its assets, and its modus operandi. With this back-ground, we are confronted by the weight of a paralyzing tradition. Nevertheless, this same tradition is a rich and powerful source of guidance for architectural education and most probably for all higher education aimed at training highly qualified practitioners.

    - Jean-Francois Mabardi, *EAAE* 2002 [37]

From an overall stance for architectural endeavors, the problematically disparate and compounded nature of environmental facets and its associated knowledges (discourses) manifests in equally disparate approaches toward complex environmental issues across the board. As fundamentally an interconnected and epistemologically-rooted problem, this multifaceted and disparate environmental dynamic has compounded in varying degrees of fragmentation and separation between perspectives within architecture and the disciplines of the allied construction arts, between other informing disciplines, and between the significant totalities of the environmental *life-place* we are mandated to address socially and collectively. In this, architectural endeavors suffer from an essential disconnection of its fundamental episteme; incoherencies within our own immediate disciplinary correspondences, from the vital inter-or trans-disciplinary knowledges that inform our decisions outside our scope, from our own socio-ethical reasoning and sources of knowledge in its use and practice, our methodological approaches, and most importantly as a collective result of the previous, a disconnect from our total relation to human conditions, the bio-ecosphere, and socio-cultural significance in the *life-place* we reciprocally embody and are emplaced.[38] Because of the lack of correspondence with paradigmatic changes in the world, the social realm may well be loosing faith in the architectural profession to meet its growing environmental

dilemmas.[39] Because of this decreasing acceptance and need in the social system as a

viable part of the total knowledge base, the profession of architecture may be heading for

decline or may very well be already on its way out, unless it makes radical changes to its

mode of knowing, being, and practicing with(in) the world.[40]

  While emerging from complicated relationships between a multitude of

disparate modes-of-thought and the inherently systemic nature of their composites

within the greater domain of environmental discourse, the knowledge of architecture, its

episteme, has not significantly nor productively developed an overall critically

equivalent and co-substantiating reconciliation to the divergent and complicated

environmental issues it faces, nor has it established its priorities as fundamentally a

socio-cultural, albeit spatial practice.[41] The critical socio-cultural and communal aspects

of environmentalism are particularly overshadowed within current eco-sustainability and

environmental discussions (promoting a detached aesthetic and set of procedures) in

architectural discourse and thus are in need of re-substantiating within modern discourse

and practice, especially as an essential way to get at possibly the root of the problem in

social practices. The vital interconnective loops between our knowing, along with our

approaches and desires, our communal sociability, our everyday relations and practices,

and the greater environment are broken. Critically linking the issues and approaches

together in direct and collective relation to the environmental problems we face at

multiple levels seems of vital concern.

  As the environmental issues and relationships (natural and cultural) becomes

more potentially complex and problematic, architectural approaches to the environment

(particularly in education), as with urban and community fabric, diversify into insular, polemic positions to handle new circumstances, thus compounding the issues and further separating the approaches. As such, each emerging situation mandates a dynamic, paradigmatic review of architectural knowledge and its relation within a more totalizing or integrated framework of environmental knowledge, that which constitutes the total epistemic set of conditions intrinsically fundamental to architectural design reasoning. However, the design of built environment (architecture, urban design, and community development) and thus creation of *life-place* is informed by too many relevant stakeholders and disciplines to negotiate without distinct methods to succinctly identify 'just a few' as being most important. Since knowledge is accessed and interpretably incorporated in varying fashions, there is an increasing tendency for non-reconciled states of differentiation, separation, and fragmentation within the system that leads to disjunction and marginal relations with the greater domain.[42] In general, current architectural discourse presents an overall disparate set of many insular, reductivist views toward complex and multifaceted environmental problems, never quite grasping at the total picture. If there is conflict between environmental components and its varying modes of thought, we are already at a loss in a world which requires parity and systemic balance. Instead of working in separate directions in roughly the same endeavors, catalyzed within a single shared environment, perhaps the issues can be better and more effectively addressed collectively, co-substantively, and co-beneficially.

The framework of knowledge for architecture, as represented through its discourse and practices, tends to isolate itself from the greater and intrinsically

connective environmental domain of knowledge and has proved by its own means to be inadequate in defining its own cohesive set of conditions while being continually adaptable to discursive heterogeneities.[43] While there are various studies in architectural and environmental related fields being played out along these lines, the approaches themselves (as with the varied research) are generally disparate, fragmented, or incongruent, not critically integrated or co-substantiating to each other, much less in connection with other tangential disciplinary approaches.[44] The varying discourse involved in environmental research for architectural studies each indicates separate and non-congruent motives, agendas, and modes of operation. With such disjointed agendas, the discourse inevitably falls short of the dynamic interplay currently emerging across multiple domains.[45] Within the conditions of this complex, environmental framework of knowledge, architectural discourse in particular has never fully cultivated the ability to reciprocally manage, much less embrace, the very-real and problematic multiplicities, while also maintaining a strong philosophically based, design initiative particularly identifiable to the architectural practice. It simply has not developed working and definitive multi-methodological frameworks (models for pedagogy and practice) for the critical and productive cross-pollination of knowledge that revolves around the true complexities of greater environmental concerns within which we are emplaced. Paired with this is a lack of research and general 'know-how' into methods outside general architectural discourse, like those proposed in critical social theory and/or environmental discourse, that could aid in reconciling these varying environmental discourses together in at fundamental, inter-connective, and applicative levels.[46] Therefore, architectural

endeavors as a whole fall short of the dynamic interplay currently emerging across multiple disciplines in regard to the environment. And as such, architectural discourse has not fully tapped into the possibility that multiplicative correspondence with multiple sources (deep environmental issues in multiples) could build a richer palette for create endeavors, much less for just addressing complex problems.

In addition, the issues are in part accelerated by recent changes and exponential increases in the complexity of environmental subject-matter mixed with escalating, un-tethered informational and technological advances, each of which also indicate separate teleological impetuses, often universalizing, reductivist and detached from the very-real of environmental concerns. Qualities are not critically communicated between each of the disparate facets, which are constantly changing as new situations emerge. The differing approaches, particularly in regard to the environment, indicate conflicting or even dominating perspectives, disempowering hegemonies to otherwise inclusively useful and co-enabling modes-of-thought. Instead of systemizing or integrating the epistemic framework, 'compartmentalization' occurs and boundaries are erected that prevent effective attention to larger contextual issues that immanently mandate collective and synthesizing approaches (an incommensurable problem that both Habermas and Rorty also acknowledge). By leaving-out or only addressing selective parts of the discourse, we can not address the problems as an inter-connected whole. With this, one may unwittingly be altogether addressing the wrong problems, disconnected from the greater environmental domain, or causing additional damage by over-rationalizing, privileging, or empowering certain points-of-view over others. It can

be said in this that there has been an uneven, even privileged deployment of architecture and its mode of being able to better the world as a whole. Such a notion would counter the original world issues that modernism tried to revise, that architecture had served primarily a privileged class only and not the overall social issues-at-hand.[47]

Christian Norberg-Schulz's "The New Tradition" (*Architectural Design*, 1991) re-substantiates after fifty years Siegfried Gideon's assertive statement in 1941 about the crisis of architecture in the modern world, a statement which still echoes today if not even more pertinent to our current situations, "our time suffers from its inability to control or organize the possibilities that has itself produced." As part of a reiterative and epochal history, the state at the turn of the twentieth century repeats Gideon's notions regarding the turn of the last century: "the main outlines are not settled; transitory and constituent facts are confusingly intermingled." That latter century's works were interpretively judged according to its dominant *modus operandi*, its reasons for making (as in Gadamer's descriptions of Aristotle's *techne'*)[48] as evidential in its own outcomes, as altogether having "misused men, materials, and human thought."[49] This epoch of Modernism has been tainted with a retreat from social and environmental concerns. In dealing with ever-growing complexities and problems in today's society, the architectural discipline faces similar issues and forgetting its place in the life-space falls gravely short. Our current epistemic world-view does not and cannot in its present state match the complexities of the world-at-large and must therefore undergo critical or even radical reevaluation and reconstruction of its overall epistemology if it is to succeed in the future. This 'framework' for thinking, its episteme, at various points and time,

requires proposals for its re-direction, or as Gideon might suggest a re-conquering of origins for its reasoning and mindset, its knowledge and ethics.[50]

'Sustainability' and 'green' approaches have only attempted to discuss the issues, but has negated emphasis on social issues and practice. What is absent in architectural discourse in general, as particularly in 'sustainability,' are the rich socio-cultural engagements (from multiple sources) out of which knowledge, civil society, meaning, ethics and morals, and our collection actions are formed as well as the basis for our environmental disposition and practices. In this, there is generally little critical discussion of how deeply-rooted and place-oriented, socio-cultural thinking forms the foundation for building practices, that which in their capacities can be enabling or detrimental to the environment. In addition, the current approaches generally do not include discussions or subsequent methods for integrating the many varying social knowledges and practices, those dynamic relations that occur simultaneously in regard to any specific environment. An example of this can be seen in any complex social setting as in our urban fabrics and community developments, wherein m multiple factors come to bear that have distinct effects on each other and on the greater environment (inclusive of transportation, conservation, preservation, parks and green space, commercial, public space, housing, land and water resources, etc, etc.) Basically, 'sustainability' or 'green' thinking, without active acknowledgement of these key social-cultural aspects inevitably and dramatically falls short at many levels. How can an architectural institution professing the incorporation of such a concept operate meaningfully and significantly without these crucial components? In addition, architectural discourse generally does

not match the operative and multifaceted nature of environmental concerns, a distinct epistemological set of conditions for thought and action wrapped up in the ontological structure. In this, architecture does not engage within participatory and collaborative practices with community agencies and greater societal domains in regard to its environmental practices by-and-large.[51]

In addition, the problematic relations within the environment are in part accelerated by unpredictable and exponential increases in the complexity, exchange, and intricacy between such systemic forces and our domains of *knowledge.* This has been exacerbated by escalating emphasis and reliance on generic informational, virtual, digital, and technological advances, compounding in varying degrees of disconnection between our ideas, representations, and actions and the significant totalities of the very-real of the *life-place* we reciprocally must embody.[52] In other words, we are creating more information and the ability to exchange knowledge, but not critically connecting these knowledges together in viable and meaningful ways toward our actual socio-cultural and environmental well-being. It is not the problem *per se*, but an intensification of the problem through uncritical, unquestioned, and disconnected applications or beliefs in the idea that technologies in themselves can be stand-alone or miracle solutions. Un-tethered (or virtual) simulacra or substitutions to the primacy of very-real and diverse socio-cultural human engagements within varying environs and experiential modes, each dialectic exchange through such disconnected devices produces ever more ciphered ambivalence (a quality of little or contradictory importance or without particular care or connected ethic), with little capacity to distinguish vital

interconnections and authentic identities and meanings within the co-inhabited, total *life-place*.

The current state of production (its impetuses, reasoning, or *modus operandi*) in modern architectural discourse is disparate, incompatible, or at odds (conflicts) with the modern state of the world and its multiple levels of environmental crises. The consensus of many reports indicates that we are not collectively corresponding to a complex world, that our world-view is separated, abstract, and perhaps deliberately indifferent to that of a 'very-real' life-world.[53] The architecture *modus operandi* often does not match the problem and is generally not tested in the field of concerns that could better substantiate it. Epistemologically problematic, architecture, as recorded in its primary discourses, is a deeply acculturated and socially institutionalized practice and thus subject to the same disparate relations as with other institutionalized practices within the environment.[54] With this, the predominant and generally overriding model or trend in architecture, rooted in stylistic modernism,[55] is an inadequate reductivist and formalistic modern condition for creative action and approaches in the greater community of affairs approach to the complexities of urban and community settings as with the greater environmental problems we currently face. In general, the modern view privileges its aesthetic ideal over all other concerns. Stylistic modernism, in particular, presents a procrustean mode (one size fits all, a violent alteration of society to 'fit' or 'conform' to a universal set of conditions).[56] No matter what is proposed, we generally fall back on a top-down, authoritative and reductivist driven; in lieu of also dialogically engaging the much needed bottom-up critical inquiry as informative to design. Its overarching

modernist view fails to critically correlate the questions regarding of the diversity or inclusion of culture with place-studies, as commonly discussed in environmental and geographical studies as part and parcel essentially the same strategy and social order.[57] Our modern trend, particularly rooted in Western Euro-centrism and Colonialism in its ideologies, is also mixed with a persistence not only to try a fix an architectural problem with another so-called architectural solution, but also attached to this is the desire to incorporate the latest technological means to 'fix' the problem that may have been caused by the same means. As indicated by Gideon at the beginning of this section, we are caught up in a reiterative circle that has broader implications.

The discourse involved in environmental research for architectural studies, primarily in its role in urban and community engagement, is also inclusive of a multitude of disparate factors and, like its root discourses, are not interconnected in a productive or co-substantiating way. The many constituents that form our urban settings are generally not mediated toward co-substantive effect in regard to environmental concerns. In the larger scope of environmental issues and our built world, our urban settings are wrought with problems at multiple levels primarily representative of the epistemic disparity and disconnection with between approaches (as represented in the discursive nature of the discourse), the many informing perspectives, and thus collective disability toward understanding and addressing the multiplicative issues within the greater environmental domain. While this is prevalent in many places around the globe, it is particularly evident in the United States, where urban developments simply do not correspond with the multiple environmental issues-at-stake.

As an example, the network of cities in the 'Heartland of America,' within a region once known as a model for community and solidarity, are now ironically truncated by wholesale sprawl and global commercial development. At the perimeters of these nostalgic town-center oriented communities, indiscriminate large-scale developments have grown exponentially in scale (and ironically still continue despite the identifiable issues we face), while basic qualities of authentic life and identity associated once known by its distinct inhabitants are decaying. This indiscriminant nature of this sort of 'unbridled growth at any expense' has left many areas with little or no symbolic center nor clear sense of identity or place. While originally European influenced, the cities within these regions have long left their counterparts behind and are now left with a piecemeal and fragmented *life-scape* with no distinct underlying method or mindset bringing them together in a co-substantiating and holistic way.

As systemically connected in an overall environmental picture, once thriving urban cities and small-town communities now face ever-growing problems of urban- or town-center disintegration, economic disparity and distribution, socio-culturally separation and loss, driving distance and energy use, and overtly resource consuming modes, all to the overall detriment to both the environmental and human condition. Our cities have grown too fast, driven by affluence, automobile use (mobility), and global markets, without overall forethought, participatory engagement, or overall accountability to the environmental issues we now face. Our urban places have overtly become inhumane, energy-wasting, congested, and polluted. Our places are not sustaining, but are consuming resources and energy along with human identity and the overall well-

being of their inhabitants, of which the affects on both the local and global community have been devastating. Local value, identity, and familiarity have given way to an inhumane global image, lost along-side an inheritance of global environmental problems. People as vested stakeholders have generally been disempowered from participatory action and the necessary collective and emancipatory processes. As a result, they can generally do nothing about the problems which plague their lives, while the progression of cities and civility are ironically placed primarily in the hands of large-scale, money markets, political agendas, personal interests, and proxy developers with no vested interest (nor accountability) in the greater concern other than their own. This notion is reminiscent and consistent, after over a hundred years, with Camillo Sitte's 1889 prediction the problematic, modern state, where he said that "[Modern architects and planners are] ruthless seekers of trade and science [and their] modern design leaves the *Volk* [the people] without a vital myth to live by." [58]

In the Mississippi Delta, increased poverty and decreased life-expectancy follow a viscous pattern of decay while its once flourishing cities are literally disintegrating and being forgotten, its inhabitants unrepresented and its places unaddressed.[59] The current approaches after the wake of Katrina in New Orleans represent another more recent example of the continuance of the dominant, modern mindset. Here is a case of where a global perspective of industry and environmental change in the form of marsh/bayou removal made ways for mass-production housing (generic design) corresponding later with massive flooding along-side racial or economic separation and subsequent despair, with no accountability. Here, architects and/or developers primarily now again represent

their own agendas or those of outside development companies and investors (driven primarily by a self-gain aesthetic and economic gain) set on money-making and opportunistic schemes to the detriment of the society- and environment-at-large. This is also prevalent on the multitude of academic schools of architecture and international design competitions who have presented the outwardly appearance of benevolent goals, only to present publication after publication of design schemes which have little bearing to the actual problems-at-hand. [60] As a typical representative model, architects are not playing the more essential, advocate roles in helping to address the greater and conglomerate mixture of environmental problems associated with flooding, ecological destruction, demolition waste, sanitation and hygiene, neighborhood decay, transportation disarray, social separation, cultural loss, and economic despair collectively and participatory with its local citizens as the primary stakeholders. Along with the physical, environmental issues, many of our cities and their many participants seem to be at a loss personally, socially, culturally, even spiritually. While there are some which represent good intentions and applicable methods for engaging these problems, they are not the dominate mode. Distrust and disassociation have compounded with the problems still on the table years after the event.

Along with modernity and modern growth came new forms of living and other associated problems, designed by proxy, in repetition, and without authentic care, for a mass of unrepresented inhabitants. The 'projects' of Cabrini-Green in Chicago or Pruitt-Igo in Saint Louis are prime examples of failed experiments and disconnected modern architectural agendas along these same lines. Like their predecessor, the modern '*plan*

voisin' or neighborhood plan of Le Corbusier, many of these type developments are known to have demolished and replaced the basic neighborhoods or small town layouts which now we seek as models. These short-lived projects, which ironically received accolades at their openings, now are being replaced by more subtle and humane, community-oriented, socially-based Housing and Urban Development (HUD) models appropriately entitled "Hope." Their approaches engage architects only as helping advisors, neither the dictator nor driver, but rather take the socio-cultural, grassroots, and participatory approach at multiple levels.

Driven by a dominate theology, architectural endeavors continue with the same set of reductivist parameters that continue the problematic at multiple and systemically un-mediated levels. A pattern of problems proceed as architects and developers construct our *life-place* without critical negotiation and dialogue between its essential facets and between its local contexts and greater global concerns. As humans, we generally continue to operate the way we do for the lack of knowing better ways to do things. And the known ways (the epistemic conditions or paradigms) of doing things often prevent new knowledge and ways of doing from emerging. The critical acknowledgement of conflicts and problems can also be great generators of innovation and revision, if they are allowed to do so under the conditions that otherwise overshadow the issues and suppress the possibility for change and interaction.

A Lead Toward Architectural Reconciliation and Knowledge Integration

What is informing the framework for architectural thought today, especially in regards to pressing and ever-changing environmental issues? With so much at hand,

what does this dynamic influx and disparity of environmental forces mean to architectural knowledge and action (as reflected in its pedagogies, discourses, products, and practices)? How does architectural knowledge 'fit' as a mediating component within the above heterogenic multiplicity (globalized, universal environment) and how can it manage such multifaceted and continuative, epistemic shifts while also maintaining a sense of identity, meaning, value, and vitality within the greater environmental community (as to not lose one's self in the grander scheme)?[61] What gives the practice of architecture *significance* and *value* (vitality) while placing it in a critical position within the greater domain? Can architecture address environmental issues at an overall global or universal point-of-view, while also ultimately and re-generatively emerging within distinct, but multifaceted singularities (multiple particular locales, places, contexts, or instances). Since within larger and discursive environmental frameworks, individual concerns and the particularities of situated knowledge can become dissolved or made generic (neutral, without value), *how* can knowledge-bases connect to inform an enriched and co-productive epistemic fabric as to not counter or override each other in the same overall environment endeavors. How can relationships be formed and the wealth of environmental knowledge be distributed and/or retained between divergent factors under the auspices of an ethical and co-substantiating framework of knowledge as the primary mode for architectural understanding and its addressing the greater environmental domain? In essence, can we propose vital reconciliations or reconnections through a model (or moral) philosophy, connective ideology, and/or epistemic framework that identifies architecture within a greater

framework of environmental endeavors and as such within the total *life-place*, the world at large?

While rifts can be found between our varying epistemologies, methodologies, and technologies and thus breaks in the significant, connective loop within our greater environmental domain, it is important to maintain the intrinsic need for authentic dialog (with respect to Ricoeur), negotiative mediation, and thus co-reasoned rapprochement between multivariate facets of the environment as the basic impetus for architectural endeavors. Within a state of conflict and disparity, there can at least be proposed a framework of critical reciprocity as the terms for engagement in the architectural development of our places, one not only responsive within our current eco-environmental dilemmas, but one where reciprocity with the 'other' at multiple levels is in seen as equivalently and productively co-substantive and the foundation for creative action. The research acknowledges that although an ideal rapprochement itself may not yet be universally definitive or even ubiquitous across domains, there can at least be proposed common means and methods, primarily socio-environmental technologies that lead towards a certain productive cohesion and affability along common environmental grounds and objectives. In addition, it should be noted that if reciprocity or cordiality in the world seems to be the most difficult challenge, as represented in its many conflicts and disparities, then it may be the greatest of intellectual endeavors and deserving of extraordinary attention.

As knowledge increases about the systemic nature of the world with its complex environmental concerns, cooperation and critical cross-pollination (the sharing of

knowledge for a shared concern) becomes more and more crucial. Motivated by these rapidly changing, ever more complex or discursive socio-environmental issues, architectural endeavors at multiple scales must be facilitated in such a way to productively expand its view toward critical knowledge integration and correspondence (and thus vital continuance) with its various components. Working within complexly organized urban fabrics and socio-communal structures requires not only a wealth of information-based knowledge and of its technological components, but also knowledgeable experts in the management and mediation between various, disparate facets leading toward collective application within creative design interventions. There is an increasing need to foster ways in which architectural thought and thus practice (thought-in-action) can more effectively and holistically deal with complex environmental concerns, particularly in complex urban and community settings composed of multiple viewpoints. To foster authentic vitality, the architect who occupies a central position in the "production of space"[62] is mandated to have a greater understanding of the work and its position in the overall contextual (and epistemic) framework where it resides.[63]

To transform the structure and viably address significant socio-environmental issues at multiple scales in meaningful and effective ways, an understanding of the epistemic framework as a multivariate set of conditions for *praxis* (critical thought-in-action, multiple stakeholders) and the ability to critically identify, organize, and thus integrate its vital aggregate components (informants) is required. The boundaries of what are considered the environmental subject and the place of architectural endeavors

within it have to be critically extended, but at the same time effectively distinct. The

essential content and nature of architectural thought and action can no longer be

restrained to traditional design parameters, but demonstrative of an inclusive and

productive interplay between a wide array of affective measures and conventions within

a greater body of knowledge, as representative of the total, environmental condition. In

this case, the subject of study for architecture emerges out of the current state of ever-

growing environmental concerns at multiple, but disparate levels of engagement.

Architectural discourse and its associated endeavors needs to account for its own

epistemic structure (framework for architectural knowledge and its ontological

relationship to others) as the medium where creative production initiates with

corresponding methods and models that foster critical, integrative, co-productive, and

effective interchanges of ideas from broad ranges, while also *co-substantiating*

identities, values, and meanings, and particular localities of embodied individuals-in-

place (invested stakeholders in a community). The positive transformation of the

structural framework as the medium for the exchange of knowledge in turn transforms

the corresponding social structure and thus critical human consciousness where

knowledge constructions manifest.[64]

Along with making use of vital, epistemological foundations, architectural

designs within these settings must emerge from pluralistic and interactive systemic

contexts to critically consequently respond with significantly integrative and meaningful

courses of action within the greater, immanent domain while also preserving the inter-

subjectivity of particular identities *in situ* (place, context oriented). Architecture,

particularly in urban and community settings, as systemically engaged and intersecting with the total environment at multiple scales, is inherently part of interdisciplinary and communally participatory processes. It is a socio-environmental practice that negotiates 'architectonically' with others. Integration of participating knowledge-bases and distinct interdisciplinary methodologies, along with an array of local (place-oriented) as well as global approaches, can attempt to address the discursive concerns of architectural endeavors and its long-term correlation and application within the greater environmental condition, thus developing a more co-productive and cross-validating effect. Here, in distinct settings, it is also significant to understand where and how knowledges (represented by accountable stakeholders) join in the best and most co-productive (co-beneficial) manner in regard to the environment. [65] The collective field of these affairs here sets the conditions for rigor and validity, based on a multiplicity of criteria. This idea also fosters the potential to increase the value of creative endeavors within an enriched palette and field of validation.[66]

In addition, integration based in increased critical awareness and emancipatory revision, as well as significance on moral or ethical accountability of its active agents, can strengthen the central role of architects in the immanently interactive, social environment. To addresses environmental issues from how we know and act at essentially an ethical level, designs must also inevitably engage socio-communally through direct immersion and authentic dialog (in place or *situ*) in order to promote vital communication between its various facets affecting each other and the whole. This ultimately involves an interactive process whereby the total community is inter-

connected, co-effective, and accountable in a collective decision making process grounded in a framework for creative endeavors. [67] Because of the collective, discursive nature of urban and community settings, this process is becoming more and more an issue requiring effective, multi-methodological and multi-modal approaches.

Current architectural discourse, in both education and practice, is undergoing substantial, even radical changes, especially in its role in environmental issues and its place in collective, social practice. There is a growing tendency within architectural endeavors, primarily in inter- or trans-disciplinary, community-scale settings, to be more informed by both critical social inquiry and environmental discourse, each of which essentially seeks multi-level knowledge integration and invested participatory engagement toward application, transformation, and inevitable betterment of the relationships between the human condition and the greater socio-environmental domain. However, these approaches have not yet formally (or productively) integrated these modes together pragmatically and substantially into prevailing, holistic models for general application in architectural settings. While ecological concerns rise (often ascribed under the auspices of 'sustainability'), socio-cultural concerns are becoming increasingly diminished, when in essence they should be thought of as intrinsically linked. It is important within the greater social framework to consider formal ways in which architecture can more effectively and holistically deal with environmental concerns that will be inclusive of socio-cultural as well as even philosophical concerns (as in ethics or epistemology), a total inhabiting, bound in thought and social practice. For current architectural discourse to correspond with greater environmental

complexities, an equally multifaceted, inclusive, and moreover co-substantiating critical

epistemology coupled with operational, socio-and eco-environmental technologies must

be embraced, one that establishes vital and productive reconnections.

Therefore with so much going on, it is important to develop an integrating

framework of interconnective, conceptual components that is easily accessible, if not

entrained into a belief system, to connect the issues together into a coherent mode that

puts us in direct, reciprocal correspondence with each other and our total environmental

life-place. Albeit, more than simply finding a reductivist way to manage or frame this

enormous endeavor, the issue has to be extended to how this multi-faceted (discursive)

environment can become continually and creatively graspable[68] within an epistemic

framework intentionally designed for open-ended, reciprocal vitality between varying

components of the greater environment, while maintaining vital authenticity of

identities- and *meanings-in-place*. The proposed corresponding theoretical framework

leads toward the social integration of knowledge that cultivates positive and productive

rapprochement between intrinsic constituents of a total set of environmental conditions

as the fundamental basis for architectural endeavors within complex urban and

community settings. The goal of this approach is to develop creative endeavors within a

critical framework of knowledge that progressively promotes betterment of life through

co-enabled identities, essential and vital inter-connectedness, and a strengthened relation

with each other and within the shared environment as a total *life-place*.[69]

Introductory Proposal

A Corresponding *Critical Environmentalist* Framework for Architecture

Our hierarchy of associations is woven into a modulated continuum representing the true complexity of human associations.... We must evolve an architecture from the fabric of life itself, an equivalent of the complexity of our way of thought, of our passion for the natural world and our belief in the ability of man.
  - Alison and Peter Smithson, *Team 10 Primer*, Statement of Intentions [70]

Is the study of the built environment a subject in its own right or is it simply the 'meeting ground for a number of disciplines'? Should 'environmental studies' be a loose faculty arrangement in the university, with architecture as one of a number of 'related disciplines' grouped round a problem area? Or is there some sense in which the study of built environment can arise naturally from the activity of architecture in such a way as to reconstitute and perpetually renew the intellectual bases on which environmental action and design must be founded?
  - William Hillier and Adrian Leaman.- "Architecture as a Discipline" [71]

As discussed above, the research proposes that for architectural endeavors, environmental issues need to be addressed *epistemologically*, as the critical root of the problem is, in essence, about our *knowledge of the environment* and how it forms and interacts socio-communally (in all its basic components) as a basis or condition for meaningful experience and action. General epistemological studies are important at these junctures, as they revolve around the subject of 'knowledge' itself and the conditions for such: *what* defines knowledge, *where* it originates, *its nature, how* we know *what* we know, and *how* it is co-formed, validated, or made legitimate (given authority) within certain cultural milieus and their effective capacities and conditions for thought and action (an extended dynamic or emergent, ontological dimension). As such throughout the research, the basic facets are discussed from this intrinsic epistemological stance as well as an ideological and ontological stance - that is, *how* they are knowledge

(in)forming, *how* they are characterized idealistically, and *how* they relate together in co-substantiating ways to each other and to the proposed environmental proposition.

From the above premises and problems, this research proposes that in order to address a compound composite problem, a corresponding epistemological position has to be formed, one composed of significant and contingent socio-cultural and eco-environmental features and negotiated in relation to the built environment and thus to architectural discourse. A multi-methodological mode based upon a framework of knowledge integration should be proposed, understood in terms of formative, systemic correspondence and emulating the complex and interdependent nature of the greater environment. However, a systemic relation is not enough in itself; the framework of knowledge must also endeavor to seek benevolent and reflexive rapprochement (co-beneficial, co-substantial, co-enabling, and empowering) at a fundamentally human, socio-communal level. It must also foster the essential basis for creative application and lead toward meaningful experience at multiple levels of engagement for its participants, as particularly in the communal, socio-constructive practices of our *life-place*. A corresponding method or didactic grounded in socio-environmental multiplicity and benevolent reciprocity can be turned into the essence (palette and ethic) of creative endeavors, particularly in architecture. To address the composite between human condition and environmental issues, the research proposes that essential conceptual relationships exist between the significant conceptual facets of *critical social theory* (to address socially oriented issues) and *environmental discourse* (to correspond the subject with the crisis-at-hand) that can lead to a connective epistemological framework (a basic

set of interrelating and usable, conceptual tools to guide knowledge) distinctly identified

as *Critical Environmentalism* for architectural discourse. Figure 1.3 shows the basic

correlation of components of this research as a basis for the proposed composite

position. An approach based in critical social theory and grounded in significant

environmental issues supplies a reciprocal and dialogical negotiation (rapprochement,

mediation, counter dichotomy) between multiple epistemic perspectives and their

communal relations within the greater environment, while also fostering vital and

meaning-generating conditions for creative thinking for our socio-constructive practices,

as with architecture.
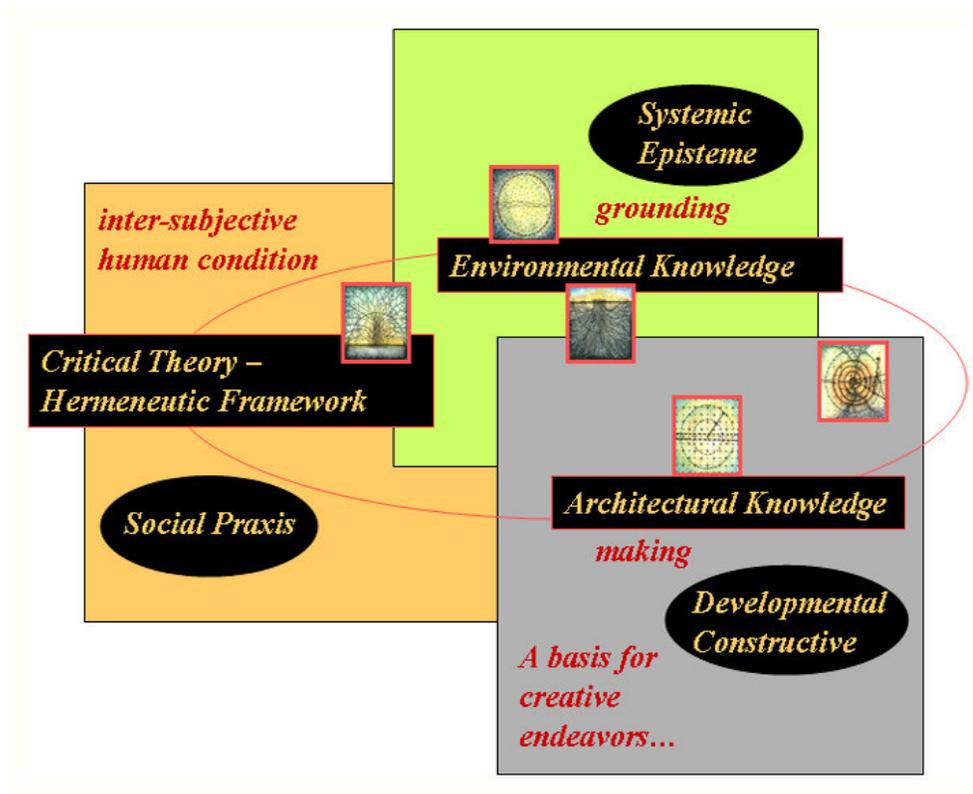
Figure 1.3: Corresponding Composite Relationship Diagram (Image Representing the
Structural, Interactive Relationship of Epistemic Views.

As an inclusive philosophical model, the ideals for *Critical Environmentalism* are distilled from an extensive literature review as a common epistemological theme across many disciplinary fields and thus supply the most descriptive title. The basic underlying concepts of this model incorporate an instrumental amalgamation of critical social theory, post-structural analysis, constructivism, practical hermeneutics, phenomenological embodiment, critical regionalism, stakeholder and knowledge integration, critical education, community and place studies, ethics, as well as wide-ranging environmental education and socio-cultural praxis.[72] However, in order to distill useable conceptual features for this research in regard to architectural endeavors, these positions are simply categorized into two fundamental domains of knowledge, being those of *critical social theory* and *environmental discourse*. As an introduction to this research, as well as for a usable understanding to emerge for architectural thinking, it is important to first establish fundamental theoretical or descriptive groundings within these two formative components of this proposed position.[73] In addition, supportive reasoning for the deliberate union of critical social theory and environmentalism in regards to architectural endeavors and its roles along these lines will be further elucidated. After an overview of the subject-matter in this introduction, the research will proceed in three subsequent chapters relating respectively to critical social theory, environmental discourse, and the composite *Critical Environmentalist* position. The final chapters will attempt to show the correlation and operational value of this position for architectural endeavors in a series of published papers discussing its potential applications in urban design and community development scenarios.

The Critical Social Position

By definition, critical theory and cultural studies cannot be confined within traditional subject boundaries. Rather, these are forms of analysis that occur between disciplines, bringing together many different ways of thinking about the manifestations of culture.
                - University of Canterbury, *Critical Theory and Cultural Studies* [74]

What Critical Theory turns out to be is a network of concepts, covering a wide spectrum of positions, often with contradictory perspectives on the many issues and ideas involved.
                - Stuart Sim & Borin Van Loon, "Introducing Critical Theory" [75]

For the purposes of constructing a theoretical, guiding base for this research,

Critical Environmentalism essentially stems out of *critical social theory* and its inherent

bearings in epistemological analysis, phenomenological hermeneutics, dialogical

processes, social inquiry, and social practice (*praxis*).[76] In the next proceeding chapter,

the research elaborates on some significant features within this major theoretical field,

supported as well by its fundamental conceptual positions in critical epistemology, post-

structuralist discourse analysis, critical social sciences and hermeneutics. Since the

environment is inseparable from human condition issues, and since architecture is

essentially a socio-environmental, constructive practice linked in multifaceted ways,

critical sociological theory is a primary starting point for negotiation between varying

facets of human production and environmental issues. From this inseparability,

reciprocally productive, co-substantiating, and co-beneficial (mutually benevolent)

relationships have to be formed between our socially formed knowing and experiences

of the world, our socio-environmental conditions, and our physically manifested built-

forms as co-formative to our sociability. Critical social theory is viewed here as thus

being the primary mediating position between multiple sociologically-placed,

environmental issues and the built environment (a manifestation of our collective episteme and our social capacities), as with architecture (a socio-environmental practice).

Critical social theory is the fundamental philosophical domain underlying most social inquiry, theory, and praxis and while it is most prevalently in social sciences and the humanities, but it also has distinct uses within architectural, urban studies, community, and environmental endeavors at multiple levels of engagement. Since modern architectural productions historically coincide with the development of this modern philosophy (both substantiated within a deeply-seated philosophical, primarily dialogic lineage), critical social theory as a distinct and necessitated outcome of our times provides us with an ongoing set of intellectual tools for inquiry, negotiation, and revisionary or transformative application. It establishes the essential conceptual (or intellectual) components and social technologies to bridge or link between architectural practice and greater socio-environmental concerns.

These connective roots in critical theory offer means and methods for critically cross-referencing human condition issues and for dialogically bridging social praxis and disciplinary frameworks in relation to greater environmental issues. It provides the formal basis of both rigorous intellectual inquiry and dynamic transformative action for the proposed position, as it engages at the subject (the multifaceted environment) at essentially socially-constructed, epistemological levels (often rooted in historic or traditionally oriented discourses and manifested in dispositives), but also ontologically to relate and negotiate multiple stakeholders, their knowledges, and effective applications

that are particularly associated with socio-environmental issues within complex urban design and community currently at hand (also socially emergent as a physical manifestation of our collective knowings). In this, the position views knowledge as socio-environmentally formative as well as generative –that is, it both references and creates. Along these lines, the components of the critical social theory stance essentially outline the epistemic scaffold for the *Critical Environmentalist* position for architectural endeavors. It especially pertain to architecture's role in socio-environmentally oriented, co-constructive practices within urban or community settings, which are composed of many compound, problematic issues necessitating productive mediation toward common concerns of socio-environmental equity (parity) and redress.

In addition, the critical position of this modern philosophy, as paired with post-structuralist and epistemological analysis, is concerned with disparity and dominance of views vis-à-vis the particulars of context and instead fosters corresponding modes of inquiry and practice toward *parity* and corresponding discursive interaction in direct relation to issues-at-hand (therefore situating knowledge). Here its tenets work within the present set of conditions as the primary authority, not as hegemonic or dominantly exterior to, but fostering dialogic inquiry in tune with the state-of-affairs and their active participants at multiple levels of engagement. In this, modern productions have to be thought of and negotiated within the "terms of epistemic reference" of the varying forces and stakeholders and matched with a mode of inquiry and action equivalent to the situation-at-hand - that is, the 'current,' modern state and its present multifaceted conditions for the emancipation of the individual, the co-beneficial construction of

knowledge, collective and conscious transformation of crises, and their active manifestations in our shared *life-place*.

To negotiate an inclusive socio-environmental condition for action, the main outlines of critical social theory address the issues from critically-minded and multifaceted approaches. It is critical because of its direct negotiative engagement between individual concerns and an expansive and often global field of affairs, a multi-modal, but shared (inclusive) assembly of socio-cultural issues, many participating and invested stakeholders, multiple crises-at-hand, and primarily a problematic and seemingly unmanageable, composite environment. To understand the complicatedness and interconnectedness of issues in relation to the human condition, the proposed theoretical stance promotes rigorous modes of inquiry that involve systematically organizing and connecting complex, discursive and multi-dimensional factors within co-substantiating epistemic frameworks and socio-environmental objectives. As such, it fosters the fundamental mode of dialogic (hermeneutic) mediation between multiple facets and collective application toward variant, but interdependent environmental crises, while at the same time, leading toward emancipative empowerment of participating and *embodied* identities, orchestrated at distinct, localized domains (*emplaced*). Its mode of inquiry promotes a significant means and method for effectively engaging multiple and often divergent domains informing environmental discourse in architecture and for providing a means for working creatively within distinct and convergent, complex settings, particularly those that involve urban and community development scenarios.

Critical social theory incorporates this connective criticality along with dialogic hermeneutics as the fundamental methodological approach for negotiating multi-modal social thought and practice. A hermeneutic mode of thought coupled with architectural thought fosters connective, interdependent, and co-enabling epistemes leading toward productive and correlative design practices, an operational dialogic between its working parts toward co-creative and -constructive action. Multiple domains must be critically merged and engaged with each other to be co-enabling (co-beneficial, co-substantial) in a total, systemic environment, hence the need for acknowledging an underlying hermeneutic structure. The hermeneutic is concerned with establishing cross-referential validation between positions and the 'why' (Gadamer's *techne'*, our *reasons* to produce) for both this research as well as for the application of the framework for environmental thinking in architecture and complex urban or community settings. Fundamentally a hermeneutic standpoint in itself, this investigation seeks to elucidate conceptual connections and mutual grounds, objectives, and modes-of-operation across knowledge domains, initiating an essential, environmentally-oriented framework. While at the same time, it promotes the same approaches toward application in architectural settings. In this, the research will bring together common threads supportive of a distinct critical approach to environmentalism, one that will also support and inform a distinct architectural point-of-view within the greater domain of knowledge and community of affairs.

The Environmental Position

One result of formal education is that students graduate without knowing how to think in whole systems, how to find connections, how to ask big questions, and how to separate the trivial from the important. Now more than ever…we need people who can think broadly and who understand systems, connections, patterns, and root causes.
      - David Orr, *Ecological Literacy* [77]

Global education is an holistic paradigm of education predicated upon the interconnectedness of communities, lands and peoples, the interrelatedness of all social, cultural and natural phenomena, the interpenetrative nature of past, present and future, and the complementary nature of the cognitive, affective, physical and spiritual dimensions of the human being. It addresses issues of development, equity, peace, social and environmental justice, and environmental sustainability. Its scope encompasses the personal, the local, the national and the planetary. Congruent with its precepts and principles, its pedagogy is experiential, interactive, (student, self) children-centered, democratic, convivial, participatory and change-oriented.
      - David Selby*, "Education: Towards a Quantum Model of Environmental Education"* [78]

Environmental discourse indicates a web of ontological relationships in which an organism is embedded and the systemically 'nested' nature of all living organisms, which extends beyond a simplistic or reductivist, dualistic, or separated mis-understanding of the environment. As an ideology for practice, this extends to a philosophy of living in harmony with and even *as* the ecosystem. It directs concerns and actions toward the environment as part of our total living and knowing condition. Like the Aristotelian friendship model (*Nicomachean Ethics*), it also promotes *caring* whole-heartedly for the environment at large as one cares for themselves, inclusive of others (e.g. individual identities, ecosystems, socio-cultural values, and civic concerns *et al*) and the idea of 'caring' or 'friendship' itself. Each interconnected component is considered co-enabling (co-substantiating), if not necessary to our own well-being. From a philosophical stance, the environment is an intrinsic part of the intellectual agent,

part of the reason for being. It is inclusive of both the critically embodied self as an intentional, interacting, and intellectual agent and the space of 'emplacement.' To many, the environment entails a critical epistemological aspect, the referent of knowing, and as such also plays a part in forming even our belief systems and religious practices. In this, the environment is considered the connective, ecumenical spatial catalyst wherein we all know, experience, share, and inhabit collectively and hopefully cordially.

Building upon the significant critical sociological foundations and reasoning, the third subsequent section of this research will then present significant conceptual correspondents within environmental discourse, focusing on environmental philosophy, its issues, and physical practices as paramount and how they interrelate to the proposed position along connective threads. In regards to the multifaceted and discursive condition, a social orientation toward the environment promotes inter- or even trans-dependent (and matching disciplinary) modes of critical inquiry and discourse for active betterment of the total environment as a shared, human concern. To many environmentalists, the root of such a proposal rests in critical education together with community action. In addition, all disciplines and practices are essentially connected environmentally, an in the 'grounding' subject matter. The environment position establishes the common ground (or catalyst) for thought and our reason to bring ideas together, to collectively produce, and to better our interrelations, particularly in our co-constructive, environmentally transformative actions, as particularly in complex urban and community settings composed of many intersecting issues.

As co-substantiating with critical social theory, the *environmentalist* position proposes that active-agents are *embodied* and *emplaced* in critical correspondence and interdependent relations with(in) their particular *places* composed of social, ecological, biological, geological, and geographical, *et al* contexts.[79] Environmental philosophy incorporates these contexts as physical parameters of knowing (thus also epistemological) and thus forming in direct relation with particular socio-cultural and communal aspects and our distinct and individuated *life-places*. Herein is concern for agent-stakeholders as embodied participants within a community of affairs, inclusive of their many distinct histories, traditions, cultures, ideologies, pedagogies, ecologies, geographies, physical parameters, locales, etc. An environmental mode *situates* multiple agents (stakeholders) and their inhabited capacities for critical *thought* and *action* within and throughout the very space or more specifically the *place* of their mutual occurrence, intersection, and affect. This fosters entitlement of the 'very-real' of existence as the continuative essence for thought, identity, and experiential authenticity, as well as creative activity.

In addition, the environmental position places distinct emphasis on accountable action (*embodied*) and how we physically affect or detriment the environment (*our substantiating life-place*) at multiple interdependent (systemic and interconnected) levels, a major concern in our complicated, modern times. Since environments are composed multiple perspectives, the negotiation of multiple representative agents (*embodied and emplaced*), is of primary concern. Placing these notions together within a reciprocal environmental framework, each component is considered systemically co-

substantiating apparatuses (active, co-affective agents) to their other(s).   If the environment or parts within it are effected in adverse terms, the conditions for our knowing, future action, and our (well)being also are equivalently effected. Each is considered dynamic and holonically inter-relative and complex – that is, each part, from the smallest agent (as in the individual human, knowing agent) to the greater framework of occurrences, relates to each other and to the greater whole within varying scales.[80] Approaches to the issues, negotiated by individual agents, have to be in correspondence and operational (applicable, transformative, revisionary) within their specific contextual situations, while also negotiating universal understandings of what is considered beneficial from an overall standpoint. In this, there are also concern for the co-operational (active, working), co-affective capacities (agency, ability and limits to act) between each part and the greater environmental domain that must be acknowledged and managed to the benefit of the whole, an essential feature of environmental discourse. From this stance, we gain a basic format of what is intrinsically present, plus a relational diagram (see holonic diagram in chapter on environmental discourse) of the potential interstitial dynamics and knowledge formation that will occur in each situational context as a basis for creative architectural interventions.

However, while what might seem at first as just simply mechanistic, neutral systems of environmental occurrences and interplay, there are also *axiological* parameters particularly in regard to human engagements between their interdependent knowledges (epistemic interactions between agents or stakeholders), playing a role in environmental concerns.   As also in critical social theory's stance, nothing is considered

neutral, but enriched with both creative and destructive capacity, desires, and intentions. Physical contexts play a reciprocal role in the collective, formative understandings of meanings, values, ethics, and terms of conduct (the axiological dimension, their determinants of well-being). Matching the continuative and interdependent nature of the environment, that is, guided by an intrinsic care, reflection, benevolence, and empathy as essential modes within their community and socio-cultural framework, communities of knowledge can best negotiate, co-enable or co-substantiate (work together in parity, as the environment) toward common understandings, meanings, values, and goals within the shared environmental *life-place*. Like the Aristotelian friendship model (*Nicomachean Ethics*), it also promotes *caring* whole-heartedly for the environment at large as one cares for themselves, inclusive of others (e.g. individual identities, ecosystems, socio-cultural values, and civic concerns *et al*). Architectural engagements substantiated within greater environmental conditions, particularly in urban design and community developments, can be negotiated with an emphasis on distinct place-oriented human experiences, multiple stakeholders in productive negotiation, and their axiological relations in terms of authenticity of meanings, values, and ethical relations (here, guided by such positions as environmental ethics and its critical philosophy, transpersonal ecology, ecosophy, biophilia, *et al*).

The Composite Position

Awareness of this in-between (in-between awareness) is essential. The ability to detect associative meanings does not yet belong to our mental equipment. Since, however, the meaning of every real articulated in-between place is essentially a multiple one, we shall have to see to it that it does. Our target is multiple meaning in equipoise…
      - Aldo Van Eyck, Team 10 Primer [81]

Therefore, the prevailing and popular contemporary desire to circumscribe the epistemological foundations of our discipline concerns primarily the appropriateness of language to modulate our actions as architects, but can never pretend to "reduce" or "control" its meaning. The issue is to name the kind of discourse that may help us better articulate the place which our design of the built environment may play in the technological society at the end of the millennium.
　　　　　- Alberto Pérez-Gómez, "Hermeneutics as Architectural Discourse" [82]

As a composite of the two fundamental theoretical fields, the next subsequent section of the research cross-references these conceptual positions, a merging of critical social theory and practice with environmental discourse, to distill a framework of interrelating categorical components that cover a range of essential issues that support the central proposed position. These theoretical fields correspond to the socio-environmental image discussed at the beginning of this introduction, but also lead to a composite position for architecture as negotiative socio-environmental practice. What we essentially assemble, when we take the simple parts of one complex theoretical domain, critical social theory, which is composed of a dense network of concepts 'in-between'[83] disciplines and directed toward human engagement, then mix it with environmental discourse, a domain composed of many disparate but interdependent parts, we get a rich palette into which we can then drag or dip our architectural brush for urban and community development. By coupling critical social theory with the environmental domain, it seeks to situate critical aspects of the human social condition (and its practices) within a shared, but multivariate set of conditions for dialogic and epistemic construction, the total environmental *life-place*. This composite fills in where one leaves off and forms an intersecting or mediating position for the construction of the built environment and thus for architectural endeavors and its role in urban and

community settings. Figure 1.4 diagrams the fundamental relation of these knowledge

domains to critical and mediating socio-environmental practice, as primarily associated

with dynamic architectural engagements at urban, community, or social design scales.

These modes are assembled into a composite mode for architectural engagements in

terms of *critical socio-environmental* practice, as operational or active aspect of *Critical*

Environmentalism.
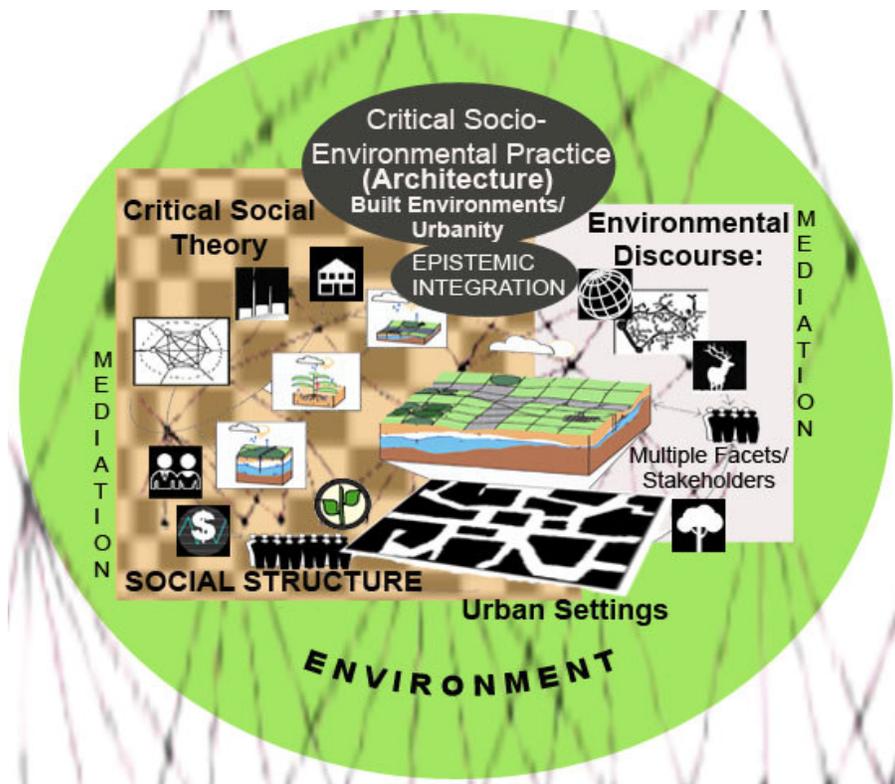
Figure 1.4: Life-place Relationship Diagram for Socio-Environmental Practice (Image
Representing a Relationship of Epistemic Positions.

Critical social theory, grounded within environmental discourse can supply a

reciprocal and dialogical mediation between multiple epistemic perspectives and their

relationships to the overall environment, particularly in socio-constructive,

environmentally-affective praxis. On the other hand, incorporating critical social theory to guide the framework for this thought-in-action, environmentalism (as predominantly ecological) also is extended and viewed systemically as integrative and immanently co-substantial to both socially (human condition) and environmentally altering practices, in this case that of architectural and environmental design. Together, the conceptual and methodological ranges within the combined critical social theory and environmentalist positions provide intellectual tools for negotiating multiple positions in the creative design processes within complex urban and community development settings.

In turn, as also discussed below its possible outcomes, the research also has the reciprocal potential to advance critical theory and the environmental research through architectural discourse.[84] As such, *Critical Environmentalism* offers an extension of the modern framework of critical social inquiry and the current scope of eco-sustainability within architecture's constitutive, socio-environmental issues and its active (intuitive and creative), *constructive* practices, the physical building of our world.[85] Beyond the ideas of just ecological 'sustainability' or 'sustaining,' which can have negative connotations in architecture or otherwise, *Critical Environmentalism* fosters a regenerative and emancipatory (identity and authenticity forming) approach to environmental issues, but one which also cultivates creative energy centered around the multiplicities of environmental concerns.[86] While the environmental mode brings individual (agent) and sociological (structural) issues to bear on distinct ecological or even geographical issues (as in place studies) and the sociological mode attempts to dialogically bring them together on common socio-cultural, emancipatory, and transformative goals, the

architectural position emplaces the combined framework of these positions within an additional *operative*, *constructive*, or even *creative action* modes, each centered on the distinct *making* (meaning production) of our world. This mode is such that the physical, human productions and their cultural artifacts are inevitably epistemologically recycled and are co-effective within the framework. Since architecture forms an aspect of how we know and act in the world (environment), we are particularly concerned with how it 'fits' and is (in)formed within the co-formative (co-substantiate) and conditional framework and in-turn proceeds to articulate it through its actions.

As this fundamental base, we incorporate key sociological approaches to identify and address the issues of *how* we as active agents (invested stakeholders in the world) know and value the multi-faceted environment and *how* we dynamically and socio-communally engage and form knowledge at multiple levels as a basis for constructive (or productive, what we produce or manifest) action in relation to that environment.[87] Upon this, it is also important that architecture incorporate multi-methodological (multi-modal) approaches for *how* (its) knowledge interactively corresponds together(co-tutoring, co-substantive) and *how* this is integrated and validated in relation to the greater environmental community for mutual benefit, especially at the urban and community scale as the major points of intersections between human endeavors and environmental conditions. In order to understand this world as our distinct *life-place*, we need to correspond with a interconnective mode for intellectual and operational thought (in lieu of simply contemplative or abstract) that is equally systemic and meaning(fully) generating – in terms of socio-ontological relationships, stable parities, inter-

dependencies, and the context for human identity, authenticity, and understanding. Understanding the environmental condition as a whole from a systemic, essentially epistemological perspective, means understanding that its very nature derives from a series of social, cultural, political, economic, ecological, technological, and *et al* problems that are all operationally interconnected. How we construct our world within these parameters is a significant feature and worth understanding if we are to have continuance and vitality. 'It' all has to architectonically 'fit' together (systemically and pragmatically), but in such a way that it also benevolently and ethically adds to the character and quality of life, that which architectural endeavours can supply.

Corresponding the two theoretical fields, the epistemological framework supportive of a *Critical Environmentalist* position for architectural endeavors can be distilled into two intrinsically interrelated and dynamically charged, philosophical concepts (the fundamentals of the discourse), crossing critical social theory and environmental discourse. These key concepts can be thought of initially as revolving around the notions of "*embodiment*" (critically-aware self or agency as individuated, interpreting, experiencing, meaning-making, etc.) and "*emplacement*" (nested, place-oriented, interconnective, interdependent, communal, systemic, accountable, authenticating, and axiological, etc.).[88] Each concept permeates in varying fashion within an inclusive amalgamation of the social sciences, feminist and critical epistemology, hermeneutic constructivism and phenomenology, environmentalism, systems and complexity theory, biology and ecology, and geography/place studies, *et al*). Essentially representative of two major theoretical domains, i.e. critical sociology

and environmentalism, albeit in differing or even mirroring emphases, the coupling

(drawing together) of these key components *situates* (or *emplaces*) the '*embodied self-*

within-the-environment' inclusively as the fundamental and accountable (co-substantial)

base for knowledge construction (as well as value and meaning formation) *and* the

spatial medium (catalyst) for ethico-epistemic interchange (ontological dimension).[89]

Their placement and occurrence across multiple theoretical fields (as epistemological

positions) brings to light that all domains are essentially interconnected along common

catalysts, those of human agency and their inhabited relation with(in) their

environment.[90] Together they conceptually interweave together, manifest contingencies,

and negotiate between multiple individuated desires, local or place-oriented

phenomenon, and global or universal concerns, etc. toward overall creative, co-

constructive, endeavors.[91] Because of their dynamically reciprocal mode (dialogical),

this initial simplification of concepts can lead to more complex negotiations and

conceptual threads along the same lines.

Along these threads, the research proceeds (two chapters of analytical distillation

of the two major fields, followed by a chapter of dialogic synthesis in regard to the built

environment) by extending these basic concepts within a broadened and more

descriptive epistemological as well as ontological range – that is, how we know the

environment at multiple levels and how the connective relationships are formed between

its basic constituents. As such, from the aforementioned theoretical domains of critical

social theory and environmental discourse, the proposed position distills five (5)

fundamental and interconnective conceptual components supporting the proposed

position. These fundamentals are discussed in terms of ***critical agent/agency,***

community engagement, knowledge systemization*,* their ***axiological*** dimensions and

inter-operative modes, each of which has its own sets of methodological approaches, but

in essence are ontologically interdependent and co-substantive with the others.[92] The

research considers these the key fundamental components, each with multiple conceptual

subsets and associated methodologies; however their base components supply the

essential starting points for negotiating architecture in urban and community settings.

By setting these base components, varying methodological approaches can be placed as

cross-referential within an overall multi-methodological and catalyzing framework.

As an overview, the first conceptual notion of ***critical agents/agency*** can be

discussed in such extended terms as *embodied conscious self(s), selfhood, critical*

awareness, intellectualization, identities, individualization, personalities, capacities,

emancipation, and *vested stakeholders* as they relate to the issues and the formative

ever-emerging being within their world. While the conceptual mode can be considered

from many completely differing perspectives or philosophical positions, albeit with

differing emphases and methodologies, it significant to see where the overall issues

intersect or are essentially the same. Here, the connective emphasis is put primarily in

terms of 'vested stakeholders' and how they know and play roles as effective and

critically-aware (and thus accountable) agencies in the co-construction of our world or

lifeplace. The agent-self (intellectually aware individual or personality) is considered

the primary knowing, socio-environmental stakeholder with capacity (agency) and

intention. The idea agent can also be extended monadically to include groups of agents,

associations, or institutions, etc. as collective agents with capacity to intentionally (with particular desires) act as a singular force. In this extended view, the creation of *life-place* must consciously engage all of its relevant participating agents in such a way for continuative and creative growth, authenticity, identity, and emancipatory action. The architect here too, must be a first-person and accountable participant, while also playing a role in the enablement of others in the process. This notion basically involves knowing and creatively making persons-within-the world (with respect to David Seamon) as the active agents and agency, extended to the fact that there are multiple agents interpreting and acting together socially to construct their living environments. The importance here is that the active and conscious creation of our *life-places* must also enables its participants at many levels, inclusive of both the creator and observer, the writer and reader as engaged in hermeneutic, co-substantiating, and critically empowering dialogue.

Since our environmental is composed of many agents, this idea then extends the dialog toward **community engagement** to bring these knowing-agents into direct relation with each other and their *contextual emplacement or embedment, situatedness, acculturation, social networks/actors, accountability, traditions, social structure, belief systems, and their overall socio-communal nestedness.* Like distinct agents, communities (as with their social structures) are co-enabled through collaborative, social practices linked with environmental (even situational or contextual) thinking. Each are emergently co-formed around a distinctly instrumental and pragmatic interrelations within their socio-cultural contextual frameworks, the greater domain, and an epistemology and ethic (or even moral code, with respect to Habermas) essentially

formed around their dialogic communion. These notions also have to be acknowledged from their distinct traditional or historic formations or rootedness. There can be no separation between our social or environmental structuration and the communion of agents that collectively interpret, act, form, and perpetuate that structure. As such, it seems very natural that we should be very concerned about that multifaceted and co-effective structure as the (epistemic) conditions for how we know and experience our *life-place*. Hence for the human condition, the environmental system is intrinsically social, a bringing together of one's self(s) within communal and mutually beneficial knowledges, experiences, and praxes.

Because of the complex array of active forms of knowing, the idea of **knowledge systemization** *(*also discussed in terms of *architectonics, integration, synthesis, interdependence)* then puts the previous two modes together in direct correspondence and continuative relation to each other and the complexities of the greater environment, wherein the issues are very-real and interdependent (co-substantiating). Here, a system that is considered 'good' and working is one that is life-supportive, in a state of parity or balance. The systemization or integration of knowledge builds a collective and reflexive framework for complex enterprises. In addition, the systemization of knowledge leads to correspondence with systemic or even organic nature of the scheme of things from an overall perspective. From an environmental stance, we are interested in the conscious awareness or the interdependence of correspondents within a total system of affairs.

However, these initial concepts can be considered mechanistic or static in nature (as in happening without intent or goal) and are not enough in themselves. While the

previous three components have distinct structural or foundational attributes, as in 'set in place" or constant (continual), they also have variable or dynamic components as well. As an intrinsic (always-present) and active component, it is significant that they form an *axiological* dimension - that is, for these components to have bearing on the human condition, they must be meaning-generating, value-laden (or value-enriched), and ethics-forming. Intrinsic to the whole picture, these attributes must continue fulfill significance to our lives and experiences. In addition, the notions of 'care' and reflection come to bear as the basics for significant action. While this may seem basic, these notions are often overlooked as essential to our well-being. Since there can be no separation between the universe and humankind's imaginability of it to bring it into our being, this component permeates all the others. Here, the authenticity of experiences and significant meanings are drawn from socio-communal interrelationships and dependencies, even notions of *care* or *love*, between identities within an overall shared community of affairs, affections (Spinozian view), needs, and associations. This conceptual position most closely aligns with the goals of criticality, the drawing in of multiple levels of interpretation and their inevitable manifestations and effects upon their 'others.' In the development of our community developments, we are interested in how knowledge (and meaning) is formed socio-culturally and how their participants dynamically interact with each other toward the co-creation of their *life-places* and how acknowledgement and negotiation of this interplay can play a role in future actions.

Finally, since no theory or concept works in a vacuum, they must be formed upon each other in an ***inter-operational mode*** – as in working together, *active,*

productive, constructive, transformative, revisionary, *emancipatory*, and *applicable* to the issues-at-hand. Holistically, in regard to the total environmental condition and our actions within it, we need to understand how each part or stakeholder operates individually and in relation to others in order to negotiate any sense of overall operability. Herein, the proposed position engages the relevant issues of socio-environmental, architectural development at an urban and community level from the acknowledgement of consciously aware, epistemologically accountable self(s) (as individuals, stakeholders), their traditionally-rooted community and social dynamics, their interconnected and dialogic nature for knowledge integration, their effective and creative capacities, their formative axiological or meaning, values, and ethics generating modes,[93] and their co-operative applications within a total set of conditions for life, identity, authentic experience, and emancipatory well-being.

An architectonic, as an essential mode of architecture, forms from the categorical systemization of knowledge (distinct schemas in the Kantian sense), wherein each component allows for reciprocal growth and regenerative qualities to act as a continuation of knowledge to fill-in where others leave off. The assemblages of parts are intrinsically (inherently, essentially) immanently (vitally) engaged in critical interdependency - that is, the knowledges of any particular position are in part and parcel the knowledges of the other and the whole (co-defining knowledges). It is important to understand that these ideas are not intended to be taken as prescriptive rules *per se*, but more as C.S. Peirce might similarly refer, acting as an agreeable set of categorical, "foundational ingredients" that serve as "architectonic building blocks."[94] Working

from these particular conceptual stances within these fields, the goal is to form a set of interrelating parts or kit-of conceptual-tools that can be incorporated together to establish a systematic (architectonically as a system) framework of thought toward environmental goals. The research will subsequently expound upon these categorical components and promote avenues for their viable integration with architectural discourse at fundamentally the same epistemic levels.

This set of components is considered to be the consistent parts between the formative theoretical domains, but also what must be critically negotiated within all urban design and community development settings. Each conceptual component however, has varying ranges of relations and emphases to multiple knowledge domains and in each case their own individual methodological approaches, but intrinsically are ontologically interconnected (interdependent) with the others at varying levels of engagement. The deliberate, dialogic combination of methods within each of these conceptual positions establishes the immediacy of careful, critical evaluation and multi-level reflection within the greater socio-epistemological domain as they relate to the environment at these fundamental and contingent levels of engagement. However, each combination of components is contingent with its particular context(s), fields of validation, and dynamics of participants, thus different through each hermeneutic iteration in the formation of each place. These notions will be further elaborated in the synthesis part of this research as key to the proposed position and its particular applicative ranges in complex architectural settings.

In additional support of the proposed *Critical Environmentalist* position, the research discusses current research, case-studies, and methods in urban, community, and regional developments that are currently being successfully practiced in many settings, primarily in Europe where modern design endeavors have long been steeped in critical social theory, regionalism, and environmental practice.[95] These ideas and practices fostered in these developments concur with much of the proposed framework. Many of the current sociologically and environmentally driven case-studies along these lines already similarly incorporate the same ideals and/or distinct conceptual pieces, but have not identified their approaches under such title or collectively identified strategy. While they are exceptional working models along similar lines, *Critical Environmentalism* offers an additional philosophical edge – while it approaches the issues from equivalent working methods practiced in these cases, it also attempts to align these primarily sociological approaches with architectural endeavors through its engagements in creative intellectual endeavors and the constructive making of *place*, leading more toward actual design application and subsequent long-term socio-physical and cultural manifestations. In this, the position grounds these endeavors within socio-environmental working models while deriving its ethico-aesthetic and cultural interpretations from the social fabric into built form, leading to a distinctly architectural way of forming or constructing our *life-place*. Since architecture can be thought of as both social practice and environmentally grounded, it can play a defining role in environmental issues at multiple levels. Architecture here becomes a mediating discipline between multiple facets as it attempts to correspond in kind to the multiplicities of informing perspectives in an ever-

becoming amalgamation of environmental knowledge, practice, and built-form. But also, architecture is viewed as having the capacity to build up culture and character, meaning and value, the *sense-of-place*[96], and the quality of life that goes beyond simply being an active social system (if it has the right impetus, methods, and ethics to reinforce it).

By drawing these subjects together, the ideals of *Critical Environmentalism* promote an inclusive, multi-methodological model to negotiate shared, *multidimensional*, socio-environmental concerns for architectural discourse (inclusive of its dispositive manifestations) and its place in what are essentially communicative or dialogic based planning processes for urban and community developments. Their ideals entitle the 'very-real' of the total socio-environment as the primary, spatial catalyst (adherent) between divergent points-of-view and the impetus for creative endeavors. Both promote advanced inquiry and practice embedded in society (and its varying means), leading to betterment of environmental and thus human-conditions. In essence for this research, since urban and community settings for architecture immanently involve embodied agents co-forming with(in) their places of inhabitation, critical acknowledgement of these basic, key features are significant to understanding and articulating within these settings. And like the greater environment, since architecture forms out of an systemic array of forces and the knowledges that manifest in relation, an understanding of the dynamics involved at an epistemic, root level is paramount.

From the above premises and supported by case-studies, the complicated nature urban design and community developments and its co-effective relation to the

environment at multiple scales can be best facilitated through systemic, multi-methodological approaches seeking knowledge integration between multiple and divergent, points-of-view forming our *life-place*. As such, the theoretical position of *Critical Environmentalism* is best facilitated and demonstrated operationally at this scale, because of its many environmental intersections and effects.[97] The ciphers of critically understanding complex urban and community situations at an environmental scale start with dialogically analyzing, mapping, and modeling a discursive and categorical component structure through an underlying rationale that seeks dialectic synthesis through comparison and contrast of divergent (stakeholder) constructions while also forming applicable connections for mutuality, finding shared impetuses contingent with *place* between varying facets of the epistemic and physical framework. Each agent-stakeholder carries the potential for diverse historiographies, contextual and social patterns, religious and cultural manifestations, geographical and socio-economic phenomenon, technological and physical constraints and needs, long-term sustainable and conservation issues, as well as connectivity to global, cosmopolitan concerns that must be filtered together and then cross-pollinated across stakeholders to reveal new, syncretistic re-readings of the urban space where all factors simultaneously (and communally) come to bear. For instance in urban settings, as a distinctly human-concentrated level of the environment, the issues have to be seen as to how locales or regions affect global issues and reciprocally for how global issues affect complex particulars in distinct places. This notion also negotiates how urban centers (as collective stakeholders) depend on global connections to sustain their well-being, and

vice versa. Most places may very-well have most resources and assets close at hand which can be incorporated to their greatest benefit if simply identified and understood in relation to global needs. This perhaps leads to how places can be more self-sustaining, less dependent in their needs or draws from the world as a key aspect of global environmental concerns, but also how participation in greater communities helps locales to form their identities in relation.

As ideal in these contexts and corresponding to our conceptual themes, *Critical Environmentalism* places emphasis on *stakeholder identification (agents as representatives of epistemes and their capacities), empowerment, self-identity, emancipatory action, participatory communal engagement, and knowledge generation/integration (synthesis) as the essential means for deriving shared meanings and connective modes of operation.* Multiple socio-environmental responses, attached to specific stakeholder-participants and their interpretive knowledge(s) and effective action(s) (capacities to act for themselves and for others), must be looked at holistically and multi-modally, with all their disparities and parities, connections and conflict to get at an understanding of what is literally 'at-stake' in complex urban-environmental settings. By placing viewpoints within a cross-referencing (co-tutoring, integrated) framework of affairs centered (or grounded) on environmental rapprochement and informed by critical social theory, its methods of inquiry, communicative action, and hermeneutic processes, can better facilitate a certain ethics and validity based on mediated agreement between participants. This placing of all views on the table, limiting domination, had the reciprocal quality of better enabling stake-holding

participants to play active roles in the shaping of their life-place, thus building up their emancipatory identities and a certain ownership of their life-place.

The proposed framework dynamically and critically fosters vital communicative action and integration between varying knowledge bases as well as modes of inquiry and practices required across disciplines as situations and issues emerge.[98] Intrinsically, by placing multiple perspectives (or horizons) side-by-side within a single catalyzing arena, where views can drawn in others (cross-reference), this research promotes modification to an epistemic framework that can facilitate a more significantly mediating role and place for architectural thought and practice in the greater community, thus reciprocally cultivating increased and reciprocal vitality and a better quality of life. Here, shared perceptions of long-term environmental issues and the appropriate efforts needed to deal successfully with a total set of environmental conditions form the fundamental spatio-epistemological framework for architecture. Through a co-substantiating structure, the ideals of this philosophical position cultivate a framework where variant or even divergent modes of inquiry and concerns co-inform each other, producing a non-compromising, better quality of life (being and knowing) and mode for action (practice) for all vested stakeholders in the greater, shared environment.

Centered on critical socio-environmental concerns and incorporating corresponding multi-methodological approaches for these complicated architecture engagements, normally divergent or conflicting points of view become linking factors which build emergent and creative design strategies. The proposal emphasizes a critical re-construction of context of community and place, while converging multiple

environmental conditions in comprehensive urban regeneration and redevelopment schemes. The process hermeneutically reveals richly textured socio-cultural fabrics (a rich palette of constituents) upon which to both graft and ground corresponding design solutions. As a result, the process can produce distinct amplifications in complexity of method and thus increased attention to issues, while also fostering significant narratives and themes for creative and integrative solutions (as well as ongoing for future processes). As a model for community and social development, this approach advocates effective and continuative interchange of knowledge and rapprochement between divergent modes of thought to promote productive action with 'others' in the constructive processes of our environmental *life-place*.

As an overview of the research, *Critical Environmentalism* fosters some basic ideas that will be expounded upon within the following chapters. Fundamentally, it attempts to ground disparities between varying knowledges (*epistemes*) and practices (*praxis*) within a common, catalyzing 'socio-environmental' subject-matter for architectural endeavors, primarily for how we engage design within complex urban and community settings. As environmental crises are in essence paired with socio-cultural ones, the views herein emplace multi-level environmental issues (represented epistemologically by distinct knowing-agents/stakeholders) within critical social theory's concepts and practices. In turn, it fosters grounding individual knowledge constructions, self-emancipation, creative action, revisionary transformation, communal action, and social praxis in contextual, environmental conditions as co-substantial. Here it seeks co-beneficial, mutual rapprochement and effective co-application within

disparate constructive practices (epistemologically, ontologically, sociologically, culturally, architecturally, communally, etc all interconnected environmentally). From its fundamentally sociological mode, *Critical Environmentalism* fosters strategic multi-modal/multi-methodological stakeholder approaches centered on critical social inquiry, awareness, and emancipatory action to negotiate between multiple social identities that are intrinsically rooted in environmental issues and reasoning to ground the process. Lastly, it acknowledges and embodies an environmental *life-place,* composed of a rich palette of knowledge at many levels as an essential basis for creative thought and action, as well for the development of individuality, emancipation, authenticity, and identity. This is a key function primarily for architectural endeavors at urban design and community development scales, as it derives its significant content from the intersections of many discursive, and often divergent knowledges (epistemes) playing their co-effective roles in socio-environmental issues. An emergent urban and community setting must in essence raise the creative and emancipatory spirit of its inhabitants, while also building a rich palette for its own continued development. Thus, *Critical Environmentalism* is a composite between critical socio-cultural- and eco-environmental issues aligned with axiological and operational, constructive practices and its manifested, inhabited forms. Within this, it seeks critical methodological and ideological rapprochement, well-being, creativity, identity, authenticity, and raised sense-of- self and -place for its participants at multiple levels (including the architect designer) in the co-construction (co-formation, co-substantiation) of our shared *life-place*. As a summating remark, Robert Mugerauer in his *Interpreting Environments*

eloquently draws these notions together within a key co-substantive reasoning stating that "the framework of understanding a work [or even in essence, a 'thing' or cultural artifact] depends on interpreting it in the light of its origins or creation, its forms, materials, and contents, [its use or function,] and its ethical and intellectual impulse back to social, natural, and perhaps spiritual reality.[99]

Research Design - Development, Objectives, Methodologies, and Benefits

   Development of Theoretical Model

The research proposes to develop a mediating epistemological framework for architectural discourse and design endeavors within the broader scope of *Critical Environmentalism*, the tenets of which promote an increased capacity for the epistemic conditions of architectural discourse informed by an inclusive and critically progressive socio-environmentalist schema. Within this framework, the research proposes that there are critical relationships and key conceptual themes between facets, objectives, theories, and constructs across multiple approaches within the primary co-effective domains of critical social theory, environmental discourse, and architecture that could significantly inform a distinct episteme and develop associated methods to more effectively correspond to growing and varying environmental concerns.

Guided by critical social inquiry and motivated by ever-changing and complex environmental issues, this research extends these positions and proposes that the epistemic framework for architectural thinking and active engagement in urban design and community developments can be expanded, better informed, and thus better derived within these combined conceptual frameworks toward correspondence within a systemic

and greater, socio-environmental context.   Through the dialogic cross-pollination of these intersecting positions with architectural endeavors, the research proposes to develop a conglomerate theoretical framework (epistemologically and ontologically) that can facilitate on-going and interactive, multi-methodological approaches to environmental concerns in architectural design endeavors, primarily in its more complicated, larger-scale design settings.

As a way of leading its theoretical position toward productive practicability and thought-in-action, it seeks to dialogically weave together common epistemological threads across disciplines supportive of "*Critical Environmentalism*" and subsequently promote avenues for its viable implementation into mainstream architectural discourse and its subsequent practices.[100] In this, the research hopes to critically expand and as well as authenticate the existing domain of architectural discourse through other co-substantiate domains of knowledge. In essence, it endeavors to add to the body of architectural knowledge and its creative fecundity to thus further develop value and meaning as well as a distinct epistemic identity or '*genius loci'* within the greater scope of the *Critical Environmentalist* framework.[101]

Objectives

The research will revisit the relevant foundations of critical social theory, with its bearings in general epistemology and hermeneutics and its relations with post-structuralist analysis, to promote a sociological correlation and fundamental base for the human condition within overall environmental issues. The research will then identify current modes-of-thought in related environmental discourse revolving around the

prescribed critical social theory position and relevant to environmental design and architecture. In this, the initial goal is to reveal theoretical and methodological connections between critical sociological and environmental constructs that could significantly provide usable modes of operational and conceptual positions that could further inform architectural design endeavors. A strong conceptual framework, based on the identification of essential components, the nature of their interactions, their boundaries/limits, and their systemic relations, as relevant, will form the foundation and to thus lead to an (in)formative model. The research will present composite evaluations and subsequent documentations that will yield useful patterns and connections and provide collective, authoritative recommendations toward integration with mainstream architectural discourse in order to promote a certain enduring significance and reasoned viability based within socio-environmental concerns.[102] As such, the research will also recommend possible avenues for applications of the theoretical model within pedagogical, philosophical or theoretical, scholarly, professional, and/or general architectural design, environmental design, urban design, and/or community development endeavors. From the compilation of these views, the research will develop a modified epistemological model (a theoretical or conceptual framework for knowledge and action) oriented on the *Critical Environmentalist* paradigm applicable to architecture and environmental design at multiple levels of engagement, but primarily in larger-scale urban design and community development endeavors. With this, the research will discuss the premises, concepts, and connections within working, established case-studies in urban design and community development as similar and supportive of the proposed

model in practice. The concluding chapters of this research will present case study scenarios (pedagogical, in-process, and existing established models) discussing aspects of the proposed theoretical construct in terms of and *in situ* to these design endeavors.

Research Methodologies

The aim of the research is two-fold. First, through the primary method of scholarly literature review and content analysis, the research will identify and propose conceptual connections between critical social theory and environmentally oriented, disciplinary domains to show an interdependent framework between seemingly varied or disparate modes of thought conducive the *Critical Environmentalist* position. The initial goal of this research is to build a scholarly, theoretically-founded base upon which to develop conceptual components and an epistemic framework that supports multiple domains along common modes of critical social inquiry and environmental imperatives as they relate to architectural endeavors (inclusive of philosophy, design inquiry, research, education, practice, etc…). The basic format of content analysis will distill meaningful and interconnective conceptual units that support the proposed model. The research will indicate a connective dialog between theories and constructs regarding a holistic socio- environmental perspective and how the proposed theoretical framework corresponds to architectural endeavors and their systemic, communal relation (place) in the greater domain. Second, the research plans to further develop the theoretical position of *Critical Environmentalism* as a composite, socio-environmental model to show how it fits architectural endeavors within the significant intersections of the framework and how it can be advanced and significantly negotiated in a reciprocally productive and co-

substantiating way. From this standpoint, the research seeks significant categorical or conceptual connections and thus a mutuality of meanings, impetuses, and methods across these points-of-view, initiating a critical, socio-environmentally oriented framework of knowledge that can significantly (in)form an integrated architectural discourse along these lines. As an extension of literary or textual review, this multi-modal position will be elaborated through case-studies that practice similar formal approaches to knowledge integration, social networking, participatory and multiple agency and stakeholder roles and in socio-environmentally oriented urban design, regional and otherwise community development scenarios.[103] The case studies will be followed by similar academic urban design and community development scenarios to support the research and to indicate how its ideas could operate in complex design settings.[104]

Incorporating an ideology identified by Groat and Wang in *Architectural Research Methods* (2002) as "logical argumentation,"[105] the research identifies and supports the proposed theoretical framework of *Critical Environmentalism* as a guiding and filtering rationale through a body of knowledge distilled from the research inquiry. Along these lines, the research incorporates modes of inquiry established in general epistemological studies to critically and hermeneutically engage current social perspectives and approaches to environmental issues as they relate to architecture, to bring seeming disparate parts together along common, discursive lines.[106] Matching the definitive and conditional components of the epistemological framework as stated above, it essentially asks, *what* is the 'critical environment' for architecture? Upon this, a series

of extended questions arise toward an architectural reasoning. In this, *what* are the fundamental epistemological components (conceptual units of knowledge) of environmental discourse, *how* are these collectively (social/communal) framed or interpreted (given meaning or value) across disciplinary modes and domains of knowledge, and *how* are these made manifest and critically validated (ideologically, problematically, and operationally) in regard to the total environment and complex architectural design settings? *How* do we know *what* we know *when* we know it and act upon it and *how* do we know validate our knowledges given the circumstances or criteria-at-hand? How does architecture 'fit' within the epistemic field (or framework) of complex of large-scale urban design and community development settings, wherein it is composed of multiple, intersecting environmental values and forms of validation? How does architecture emerge in relation in such a way to develop its core ethics and aesthetic strengths to provide the quality, well-being, vitality, and value to its own epistemic framework, the knowledges of others, and the greater environmental community to which it fundamentally serves? By placing architectural thought within this greater framework may bring to light the intrinsic criticality, putting into question its core theologies and values in relation to others, while also providing the essential, strengthening building blocks that must occur for its continuance.

In addition, this method (both in this research inquiry as with the proposed environmentally oriented urban scenarios presented) takes a constructivist view toward hermeneutic inquiry[107] that allows knowledge bases to dialectically emerge from the cross-pollination of knowledge. It emphasizes the activity of understanding (knowing)

present conditions and developing agential awareness in structuring and articulating it. In this model, knowledge is 'constructed' in experience gained through interaction within the world and embodied in interpretations of reality. It depends on an ontology centered on the primacy of human engagement and rational articulation and application into useful abstractions (conceptual terms or language) for use. The focus and content of the research methods is allowed to change or emerge in the process of discovery (learning), rather than a set of predetermined (absolute) outcomes, a flaw of many reductivist approaches.[108] This method intrinsically promotes a dialogic between a multitude of experiences and knowledge bases in order to interpretively generate a way of seeing the total picture.[109] Dialogical methods are "built on the idea that education is a continuum of dialogs between participants rather than monological" (the singular, reductivist approach) that "takes part in the collective enterprise of learning."[110] Transactions between participants (not just observers) are conducted on the basis of exchange of experience, knowledge, and ideas between informed individuals on particular facets of the overall subject matter within epistemologically-based design processes. The meeting process in the event-space of dialog sets stages for relationships to be reflected and then put into action (movement) through communicative processes to evaluate and assign values to unique circumstances in their milieu.

The method of research inquiry, described below, will incorporate broad-based literature review as its primary mode of scholastic inquiry, however supplemented with dialogic interviews and discussions among acknowledged authorities, cited in the research and directly influencing the research content, and then followed by case study

examples. Essential conceptual components (units or network intersections), based in critical theory and environmental discourse and relevant to environmental design and architecture, will lead to the formation of the proposed framework. The theoretical components of which will be distilled and developed on the basis of the content, trends, and connections observed in the research inquiry and will be based on the identification of common concepts and modes of inquiry and design, as well as the nature and boundaries of their critically systemic relations.

Literature Review

As the primary mode of inquiry, the research will engage a broad-based literature review of scholarly documentation catalyzing three connective domains: [111] 1) Critical theory and the epistemological foundations that establish the rationale and method guiding the research; 2) Current environmental research initiatives and their philosophical underpinnings related to the research content that indicate a common overall direction or shared, inter- or trans-disciplinary impetus for *Critical Environmentalism*; and 3) Philosophical or polemical intersections within architectural discourse and/or case-studies that can be incorporated to cultivate significant reasoning and an operational realization of the *Critical Environmentalist* proposal for architectural endeavors.[112]

As a way of distilling the ideals for *Critical Environmentalism*, the literature review incorporates broad-based inter- or even trans-disciplinary inquiry, taking into account common concerns and mutual impetuses in regards to environmental issues. The review will build a synthesis of the concepts supportive of the proposed theoretical

framework, but also intends to lead toward possible mode(s) of application. In this, the research will bring together common epistemological threads supportive of a critical approach to environmentalism and subsequently promote avenues for its viable implementation into architectural discourse.

The literature review will initiate with research on the foundations of critical theory and of general epistemological philosophy to build a fundamental relation with the current environmental discourse. This initial step will involve a detailed overview of these philosophical positions and their relation with the proposed theoretical framework as a way to engage environmental and architectural endeavors as part of the same set of epistemic conditions. Second, the research will engage recent studies in environmental research, its philosophical positions and its education, focusing on its connections with notions of critical discourse and the interdependencies between various systems as the fundamental components. From the cross-pollination of these two modes, the ideals of Critical Environmentalism can be modeled in regards to architecture. In order to graft or integrate the framework of *Critical Environmentalism* onto current modes of architectural thinking and practice, the research will then identify and comparatively analyze case-studies and contributions made by various architectural schools of thought and their associated philosophical positions (models, paradigms) that have direct relevance to the topic. By identifying modes of intersection already present within architectural discourse, the research will be able to indicate and modify distinct avenues toward the integration and progression of architectural thinking within the proposed critical and environmentally oriented theoretical framework. The development of a

theoretical model, based in scholarly literature review, will then be used to build a baseline for the proceeding interviews as a point of dialogic inquiry between principal identities cited as authority.[113]

Dialogic Aspects

The above literature review will be supplemented and enhanced at various points with interviews or discussions with key individuals in environmental and architectural related disciplines. To support and clarify aspects of the research initiated in the review, between five to ten interviews will be conducted with various architectural and/or related social or environmental authorities.[114] The interviewing or dialogic process intrinsically incorporates a method known as a "hermeneutic-dialectic" (also referred to as "collaborative" or participatory "interactive inquiry").[115] The process is 'hermeneutic' because it is (co)interpretive in nature and 'dialectic' because it "seeks a synthesis through comparison and contrast of divergent views," but also forms connections "between them that allows for mutual exploration by all parties."[116] It promotes a divergent inquiry "that is also in tune with the emerging thought of the time and significance for the world outside itself" and fosters a productive and effective interchange of ideas from broad ranges by allowing for multiple 'other' fields of inquiry to be discursively drawn into the periphery of research.[117] The interviews are considered dynamic because they allow for reiterative co-analysis of issues and outcomes. Rather than simple interview, this inquiry has the added value of continued and co-lateral dialog beyond the research boundaries along the lines of the proposed subject that can further build upon this body of knowledge.

The interview documentation will initially record the general reception of various aspects of the proposed theoretical position as a workable epistemic framework for architectural discourse. This communicative interchange will also elucidate epistemic issues associated with the research subject and/or reveal others not previously identified.[118] A discussion on the limitations and/or potentials of the proposed position in terms of depth and applicability will be held that will also examine interconnections or inconsistencies between variable positions on the subject by the interview participants. Key interview subjects will be able to evaluate, modify, and/or contribute to the theoretical proposal in terms of its viability to environmental issues in architecture and its potential for success.

In support of the theoretical position and literature review, the interviews are intended to produce both personal and collective points of view toward the development of this epistemological framework for architectural discourse.[119] Through the use of dialogic discussions, diagramming, as well as extended co-analysis of collected literature and data-in-process,[120] the interview process intends to build definitive and communicative modes that can be put into collective understanding and practice. Like our proposed position and applied in the case-studies, the method of dialog reveals varying points of view (at a particular time) as well as the shared meanings and languages (shared domains) within a certain socio-cultural framework. In this case, the community of knowledge and interdisciplinary endeavors currently (in)forming the environmental *life-place* for architectural discourse, as well as community settings at multiple scales. To promote a productive, dialectic synthesis, outcomes from interviews

will be critically co-compared, leading to mutually identifiable concepts and formative

principals for an architectural ideology. Legitimized through dialog (gaining a

hermeneutical view toward a collective notion of 'authority') with key individuals, a

constant pattern and design episteme for the theoretical position should communally

surface, one that also allows for future, emergent knowledges to play a role. In addition,

the outcomes will be compared and distilled into collective responses intended to lead

toward viable avenues for implementation and application of the theoretical proposal

across disciplinary approaches.

Case Studies

The research will present academic case-studies that show preliminary negotiations

of the proposed *Critical Environmentalist* position-in-progress in urban design and

community development design scenarios. These studies will also reference existing

case-studies along similar and supportive lines as models for the proposed model in

practice. The review of these projects intends to identify key supportive aspects of these

existing models (ways of doing and thinking) that could be used as exemplar or points

upon which to build the modified model in practice. The existing case-studies will also

indicate the value of participatory stakeholder methodologies, informed by social

practice, that seek knowledge integration in these settings toward collective

environmental goals and communal urban design and/or community development. The

added features in the following academic case-studies along the proposed framework are

the particular emphases on critical social theory and praxis, its overall goals of co-

emancipatory, transformative, and co-beneficial action by and for its participants, the

building of mutual meaning through stakeholder engagement, the rootedness in tradition and history, and the compiled wherein is focussed on socio-cultural action and co-constructive built-form as key aspects of socio-environmental negotiation and application. The case-studies will also engage hermeneutic dialog toward common goals as a primary mode of operation between facets, thus supporting the discussion or interview process in regards to the research subject at various levels of engagement.

Expected Benefits and Contributions

The research will add to the body of knowledge for how architectural and environmental design endeavors within complex urban design and community development settings, can be more significantly informed or enhanced through their inclusive relations with 'other' fields of inquiry, primarily those of critical social theory and environmentalism. Since all social practices and the human condition are reciprocally bound with environmental issues and architecture is essentially a social practice, the research fundamentally places increased significance on critical social theory and its notions of reflective self-awareness and practice and thus greater emphasis on a framework of ethics and social accountability for architecture within the greater environmental domain. As a connective and reciprocating framework for thought, *Critical Environmentalism* unites critical knowledge frameworks and social praxis with environmental issues as already-connective constituents of a singular, but dynamic set of environmentally-bound epistemic conditions not fully realized within architectural discourse nor manifested in action. Its concepts generally extend and/or scaffold onto such already established and co-associated ideas as "environmental design", "critical

regionalism", "critical (or even radical) contextualism", and "sustainability" for architecture (theory, pedagogy, and practice) by cross-filtering it through critical social theory and progressive environmental philosophies that further aligns architectural discourse, its practices, and the built environment with current socio- environmental issues and discussions in other fields. The tenets of the proposed *Critical Environmentalist* position promote broader spatial dimensions of architecture as an integrative social practice, extended beyond simply a built reaction to environmental issues to essentially being critically embodied and epistemologically co-accountable within the greater socio-environmental domain and *life-place*.

Reciprocally this interaction has the *co-lateral* potential to in-turn expand or advance the notions of critical theory and environmentalism from an architectural perspective.[121] Within its initial conceptual range within critical social practice, environmentalism is expounded in relation to epistemologically connect and ground the issues and to provide an ontological relation for strategic action within social spheres and practices. This research builds an extended creative or intuitive, as well as spatial or physical, dimension to both critical social theory and environmentalist modes of inquiry through architectural discourse and discussions of the built environment, particularly in urban settings as key to understanding large-scale, muli-level environmental intersections with human productions. Through the architectural lens, social practice and environmentalism are expanded as productive or operational (an active mode of theory or inquiry) in relation to the manifested, built environment (socially, culturally, physically, and etc,). *Critical Environmentalism* essentially entitles the 'very-real' of

human experience and their constructive activities within the total environment

(Umwelt)[122] as an encompassing and interconnecting spatial catalyst between divergent

points-of-views, disciplines, and philosophies, but also how this environment becomes

socially co-constructed into physical form. By creating a catalyzing interface or

common-ground, architects, social scientists, and environmentalists alike can engage in

co-effective and co-substantiating dialog and lead toward common goals.

From a pedagogical stance, the research brings to light key concepts and

frameworks of knowledge that can foundationally inform and enhance current

architectural design education as well as its curricular structure to foster increased cross-

pollination between domains of knowledge, thus fostering increased vitality and social

co-accountability in regards to overall environmental issues. Since all disciplines are

fundamentally interconnected and environmental, the proposed position promotes multi-

methodological, mutually unifying, and co-enabling epistemological frameworks that

can significantly inform and thus transform creative thought and action to more

effectively foster increased vitality and a certain co-invested attention to the subtle

complexities of the greater environmental domain as an inclusive set of conditions. By

linking their conceptual frameworks together, the proposed ideals negotiate shared,

multi-dimensional concerns for socio-environmental and architectural discourse alike

and promote advanced heuristic practices embedded in society that can lead to

environmental betterment at various levels. In this, it provides a sufficient argument for

a critical, systemic (inter-connective, integrated) framework of curricular components

that can be used to develop an interactive learning community with the *critical environment* as the mutual interest and impetus for knowledge and action.[123]

In addition, the proposed approach also has potential for also developing vital interdisciplinary collaborations, both in research and practice, along the lines of its discussions. The research outcome can provide a useable framework (a *prolegomena* – as introductory studies to the subject) for future research along these lines of *Critical Environmentalism*. Future projects could include: further investigations identifying various epistemological domains within the field of architecture supportive of or even counter to the proposed critical framework, studies identifying the success of programs dealing (or not) with such issues, and *in situ* or case study testing of the proposed framework as the essential components in studio-pedagogical environments, urban design, or community development scenarios. The goal of this is to provide an ideological framework whose primary intent is the betterment of the quality of life as that which can be implemented through cross-pollinating architectural endeavors within greater socio-environmental efforts at urban design and community development scales.

CHAPTER II

CRITICAL SOCIAL THEORY AS FUNDAMENTAL SCAFFOLD FOR

SOCIO-ENVIRONMENTAL PRACTICE

The perception of reality does not obtain the full value of knowledge, except when once socialized, once made the common property of men, and thereby also tested and verified.
   - Edouard le Roy, 1912 on Henri Bergson [124]

In this chapter, *Critical Environmentalism* references and distills key foundational, theoretical components from its relation to critical epistemology, post-structuralist discourse analysis, and particularly critical social theory, with its essential bearings in hermeneutical and dialogical processes (discussed respectively in each subsection below). The section starts with a brief overview of some foundational reasoning in critical epistemological philosophy and post-structuralist discourse analysis to lay out some basic features leading to the significance of critical social theory and hermeneutics for this research. While keeping in mind that there exists basic conceptual and polemic separations between these views, this investigation draws out common, key identifying facets that can be incorporated as 'critical components' for the proposed framework.

Since the key connective factors between these theoretical positions are essentially *epistemological* in nature, logically a discussion of this subject precludes the other positions in order to establish grounds and in essence begins to form the primary frame. This notion will also be discussed primarily along socially-driven (or socially structured) endeavors, as in urban and community related developments. The features of this framework include conscious awareness of active dominating epistemological

formations, social structures, institutionalized bounds, or culture-based traditions that lead toward varying ways of knowing and acting (applications) as well as their physical manifestations that also inevitably become part of that epistemological forming - that is, how we *know* directly plays a role with how we act and what we produce together as a bound, cyclic process. Our knowledge is bound-up in conditions, albeit sometimes overtly abstracted and dominated by varying institutions and therefore separated from the total-environment as a possible primary condition, which may prevent us from seeing and addressing the real picture. It must also be acknowledged that this 'rootedness' of knowing, whether we are consciously aware of it or not, is by its nature always operational, revisional, and transformative of the experienced, environmental *life-place*. This relation actively directs how we experience the world and is always in a working and continually changing mode. One cannot act critically without consciously knowing our active phenomenal and structural engagement within an overall framework for thought. Our action and creative endeavors are immanently interconnected.

Post-structural discourse analysis provides an additional critical position toward analysis and viewing our social structuring and the multiple levels of manifestations that form around our institutionalized knowledge. While post-structuralism has many theoretical positions and avenues, this research primarily focuses on the particular dimensions of what is known as 'discourse analysis,' along with its 'dispositives' and its epistemological aspects (with respect to Foucault). In general terms, post-structuralist discourse analysis operates to disseminate and analyze structure alongside discourse, language, and knowledge, as well as its productions. It concentrates on the text

(inclusive of all manifested cultural artifacts with the capacity to carry meaning, like with architecture or even urban fabrics) and its structural relation to power, institutions, and other otherwise dominating modes. Here, every part and parcel (its discourses and dispositives) of the constructed world forms and supports, for better or worse, a representative epistemological image (a collective and dominant world-view that permeates every feature we construct). All the components carry like capacities to dominate or empower its participants, be it individuals, ideals, or the greater environment as itself agential. Agents, their capacities, and all physical manifestations at many scales can be seen as all dispositive components of an overall environmental condition.

Because most of what we formally know is negotiated though our institutional education and documented in its discourse, it is a key to understanding the relation of architectural discourse to social or environmental discourse, as they can differ greatly and play co-disabling modes. The discussion here is to point out that knowledge to particular fields of thought can be dominated, overshadowed, or simply pushed-aside to promote distinct agendas that might be otherwise counterproductive to overall concerns, or to note that within knowledge there also exist extant, but salient features that can be raised to better benefit. In addition, it brings to light that every cultural artifact in large represents varying aspects of our environmental relation, for better or worse. Any singular dominant mode (insular in nature) that manifests in physical form can be seen as representing an overall state of disparity to the complex nature of environmental concerns and is also counterproductive by its very nature to the potentials of a

multifaceted and corresponding epistemic structure. Consciously bring to the surface and acknowledging these other considered salient features are fundamental to a critical and emancipatory transformation of our selves in relation to the greater socio-environmental issues. Identification of problems and our critical association with them is essential to solving problems or at least coming to terms in our understanding. On the other hand, others less prevalent and perhaps more in tune with environmental endeavors may be in-turn brought to the surface or reintegrated within a more engaged, total episteme. In order to begin to foster-in a broader range of knowledge(s) that could support a multi-engaged position, as those necessarily associated with greater environmental concerns, a critical understanding of the epistemic boundaries and the conditional sources of such within our current architectural discourse is mandated within each endeavor. Along with identifying some key basic conceptual components of these positions, this section discusses why they are essential aspects of criticality for the proposed *Critical Environmentalist* framework.

While Post-structuralism generally analyzes varying epistemological manifestations and their fundamentally structural or formative relations, *critical social theory* and its key hermeneutic, dialogic mode attempts link knowledge and understanding to issues of individual self(s) as multiple agents, their capacities, and their intrinsic intentions (desires) as key components to social structure and communal action. The key components also involve its roots in epistemology, and like discourse analysis, an understanding of dominant hegemonies that may counter multi-level or inclusive knowledge formation and practice. However, critical social theory also negotiates

multiple positions through hermeneutic practice and discussions of ethics and authenticity of experience, along with notions of *respect* and *care* as intellectual endeavors in themselves. These are seen as key to enabling identity and the terms of engagement. In this, critical social theory most significantly negotiates and informs between distinct social practices within a knowingly dynamic and structural social-spatial field, where all participating agents have an invested (primarily epistemological) stake. This hermeneutic aspect is key to deciphering complex social patterns effecting the environment at multiple scales, as particularly seen in urban settings. The 'structural' aspects acknowledge the institutionalized construction and validation of knowledge (and the languages and textual discourses we incorporate), in particular the role social structure plays toward 'conditioning' *how* we understand and act collectively toward the environment. This also acknowledges that knowledge (as with the key component of *education*) is formed socio-communally and that any manifestation of it should never be taken for granted as neutral, but is formed with intrinsic values and meanings leading to the formation of complex, multi-scaled social settings. As settings get more involved and complicated, as in urban-scale environments, so do the interrelations and thus the increased need for rapprochement. In addition to addressing the issues, this can be seen as an extraordinary device or enriched palette to guide and validate creative and caring endeavors within the greater domain of productions.

An extended discussion of epistemology, poststructuralist discourse analysis, critical social theory, and hermeneutics along with their relation to the proposed position of *Critical Environmentalism* is paramount, as they together formally align along the

same principles. However, these constructs will later be modified to progress and

refocus toward a distinct environ-philosophical position for architectural discourse in the

subsequent sections.

An Overview of Criticality

Human nature is nature architectonic. That is to say, it regards all our knowledge as belonging to a possible system… By the term architectonic I mean the art of constructing a system. Without systematic unity, our knowledge cannot become science; it will be an aggregate, and not a system. Thus architectonic is the doctrine of the scientific in cognition, and therefore necessarily forms part of our methodology.
        -Immanuel Kant, *Critique of Pure Reason,* "Architectonics of Reason" [125]

For this section of the research discussing critical social theory and its relation to

social production (as with architecture), a general definition for 'critical' is 'to *knowingly*

(*consciously*), make value judgments (*axiological*) or interpretations (*hermeneutical*)

based on a particular rationale and reasoning within a particular context (in all

epistemological).' [126] To Immanuel Kant, what is 'critical' is "based on the critique of

the powers of human reasoning" in and of themselves, that is, "to judge based not purely

on one's own reasoning, but on the interdependence of reasoning," of knowledge and the

nature of understanding based on multiplicities converging (*architectonically*) on a

singular subject. Kant states that 'knowing' structure of the world requires organizing it

through abstract categorical schemas; the critical components of such are understood,

not by themselves, but within an '*architectonic*' system of knowledge. [127] The "thing-in-

itself" (Kant's *Ding an Sich*) is unknowable, hence the need to view it systemically,

within and throughout the epistemic conditions for the possibility of thought. [128]

Architectonically, the subject and the object are discussed simultaneously as a total

system, toward dialogic processes of spatial acquisition and exchange of knowledge, a

primary epistemological concern. What and how we know is always in a process of validation with other forms of knowledge and the epistemic reference (the object, the world). In addition, Kant states that the conscious knowing-self emerges simultaneously with its society, its culture, its urbanity, and in the long run, the unfolding environment and cosmos. The relation forms another form of criticality in that all things critical to emergent life as we know and experience, each part and parcel, are necessarily connected and co-substantiating, filling-in where others leave-off within a total, working system.

Critical Theory, fundamentally rooted in Kant's critical discourse, is a general philosophy in the humanities and social sciences describing current theoretical developments across numerous fields, informed by structuralism, post-structuralism, deconstruction, Marxist theory, feminist theory, and several other areas of thought. Particularly in the sociological or philosophical (non-literary) sense, the term *critical theory* loosely groups all sorts of work from the Frankfurt School (its modern foundations), Michel Foucault (discourse analysis and epistemology), Pierre Bourdieu (*Habitus*), Neo-Marxism, and current cultural, critical-feminist, and gender theories. It encompasses the philosophical lineage known as 'continental philosophy' and surfaces in many related developments in literary theory, aesthetic critique, and socio-cultural studies, as in critical social and cultural theory.[129] To Marx, criticality was the rigorous and ruthless critique or dissection of everything. In this, even the field of reference and its epistemic conditions must also be dissected and seen from as many points-of-view in order for true critically to occur. From later Hegel, "the knower cannot be removed from

the known," knowledge cannot be separated from the process (actions), framework, and place or conditions of knowing as an essence of being.[130] The conceptual interchange between the subject and object, if not only for a starting point, brings to the textual surface an inherent spatial dimension for the conditions of knowledge in general. Heidegger extends this notion as "*Dasein,*" a constructed word essentially meaning "being-in-the-world," as a key concept to his hermeneutically existentialist philosophy.[131] This active notion of 'being' places the agent as both dynamic interpreter and engager in the construction of knowledge and the world.

In critical social theory, criticality itself is concerned with consciously, rigorously, and dialogically (hermeneutically) placing individual views (along-side others) within a field of affective, communicative ranges with other views (or horizons, with respect to Gadamer). Criticality promotes understanding the limits of one's perspectives or horizons (how we interpret or want to see things with respect to Gadamer, the *a priori*, our social constructs, structures, history, traditions, etc) in relation to others and to the world of occurrences that may be outside our own range of experiences and knowledge, but are essentially forming the total world-image and its relation to the overall human condition. This promotes more rigorous and mutually reflexive forms of inquiry guided by multiple perspectives and common goals, wherein the broader field can better articulate innovative and robust solutions.[132]

Analogous the complicated and multifaceted nature of the environment itself, criticality and formal social inquiry into the world has to occur at many levels and from many viewpoints in order to get to the fundamental problematic essences that need to be

changed and as a starting point for any applicative action toward that change. Criticality therefore, necessarily requires a greater reflexive awareness to the institutional nature of social contexts and structural relations, while developing ways to address issues at the fundamental level of epistemological and sociological engagement. Since knowledge is systemically formed socially, criticality mandates that issues must be able to be viewed from other vantage points or passed though other filters. Fundamentally, the more points of contact, the greater the possibility for criticality. On the other hand, if parts are left out of the system, our understanding of it is greatly reduced. Criticality endeavors to draws in and check from multiple points, from multiple agents. We have an essential need for criticality as a fundamental negotiator between an actively engaged, aware agent and multiple vantage points in regards to environmental concerns. As an essentially socio-spatial formation, understanding the components and processes informing the perception and production of the environment as a social and human engagement level plays a distinct role in our intellectual development and epistemological world view. As such, criticality must also endeavor to develop a connective framework of knowledge and means to guide it toward greater environmental concerns as essential to our being.

Beyond a simple analysis of structure, the ideals are also 'critical' because of direct and careful engagement between conscious agencies (stakeholders) within socio-communal associations and their contingencies as primary components to environmental understanding and a co-substantive relationship with(in) it - that is, the knowledge of any one point-of-view is dialogically 'placed' with a field of concern. Significantly the

critical social theory position is concerned with how 'criticality' leads to conscious awareness and emancipatory transformation, application, and action, and how these also become key features in experiencing the environment in authentically meaningful or valuable ways. It is concern with how we as human agents play an accountable and conscious role in our own destiny, while also opening the path for future agents to also understand their own emancipatory capacities. In addition, we are concerned with how these contingencies between agential components and the greater environment are both formed by and form cultural bearings as a basis for meanings, values, and ethics. Hermeneutics, as a key aspect of the proposed critical position, is concerned with negotiating multiple and differing interpretations (horizons, meanings) and establishing distinct and rigorous methodologies for doing so in varying situations and contingent levels of engagement. Here we are concerned not just with identifying varying structures or interpretive points-of-view (stakeholders in urban or community settings), but with negotiating *how* they may 'co-operate' within the same, shared environmental *life-place*.

Overall, each approach within critical theory has in common the orientation toward rigorous social and epistemic *inquiry* and the *critique* of hegemonic (over-arching) dominations *vis-a-vis* emancipatory interests fused with socio-cultural interpretation, analysis, and explanation leading toward subsequent social application (social action) and even radical epistemological changes. To critical social theory, the point is not just about analyzing and changing the world, it is concerned with the better well-being for its participants at multiple levels and with many conditions. From this

hermeneutic stance, the primary concern is integrating and synthesizing knowledge bases from which to generate (creative) multidimensional and multilogical solutions to complex real-world problems, in lieu of unidimensional, monological, or strictly linear (reductivist) approaches. This can be described as a bottom-up or intrinsic approach, where ideas are allowed to emerge from the system in lieu of top-down approach of being imposed upon, as in universalized notions. Multi-logical and integrating processes inevitably attempt to foster a more multifaceted 'fit' within a greater complex domain of knowledge, which in-turn can thus co-enable that greater domain (the environment in this case) to appropriate its multidimensional, architectonic components. It is here more recently, that critical theory is emerging as the dominant mode of inquiry being used to address *environmental* concerns as a social and epistemic issue rooted in education (and co-learning) and manifested practice (thought-in-action). This environmental concern is most prevalent at the intersections of increased and complex human civilization, as predominantly seen in urban settings, which will be discuss in later chapters.

Epistemological Positions

In such disconcerting and magnificent times, knowledge becomes
the only source to restore meaning, and thus meaningful action.
        - Manuel Castells - European Cities, the Information Society,
                and the Global Community [133]

The epistemic consciousness is the history of the field. And it is clear that, to secure
some chance of knowing what one is doing, one has to unfold what is inscribed in the
various relations of implication in which the thinker and his thoughts are caught up, that
is, the presuppositions he engages and the inclusions and exclusions he unwittingly
performs.
        - Pierre Bourdieu - Pascalian Meditations [134]

In philosophy, epistemology is basically defined as comprising "the systematic study of the nature, sources (or origins), and validity of knowledge."[135] Epistemology raises questions of *what* knowledge is, *where* it originates; *how* we know what we know, *its nature*; and *how* it is formed, validated, or made legitimate (given authority) within a given cultural milieu. Moreover, it also is concerned inevitably with *how* knowledge becomes the basis or the 'sets of conditions' for future (emergent) knowledge as well as collective thought and thought-in-action. To Michel Foucault in *The Archaeology of Knowledge*, an episteme constitutes:

> …the total set of relations that unite, at a given period, the discursive practices that give rise to epistemological figures, sciences, and possible formalized systems; the way in which each of these discursive formations, the transitions to epistemologization, scientificity, and formalization are situated and operate; the distribution of these thresholds, may coincide, be subordinate to each other, or be separated by shifts in time; the lateral relations that may exist between epistemological figures or sciences in so far as they belong to neighboring, but distinct, discursive practices. It is the total set of relations that can be discovered, for a given period, between sciences when one analyses them at the level of discursive regularities.[136]

For this research, this definition can be extended to the total, paradigmatic set of conditions, at any given time, context, and socio-cultural set, and well as within the discursive framework of how we know the environment, which validates and predicates knowledge and thus thought-in-action.[137] This inter-relative framework for overall thought-in-action is the fundamental basis for architectural creation as a socio-environmental, epistemically inclusive (both being formed and reciprocally informing) action.

Extentions Into Post-Structuralist Discourse Analysis

We have to cease to think if we refuse to do it in the prison-house of language; for we cannot reach further than the doubt which asks whether the limit we see is really a limit.
    - Friedrich Nietzsche (Quoted by F. Jameson, *The Prison-House of Language*) [138]

The term discourse analysis is very ambiguous. I will use it in this book to refer mainly to the linguistic analysis of naturally occurring connected speech or written discourse. Roughly speaking, it refers to attempts to study the organization of language above the sentence or above the clause, and therefore to study larger linguistic units, such as conversational exchanges or written texts. It follows that discourse analysis is also concerned with language use in social contexts, and in particular with interaction or dialogue between speakers [varying points-of-view within a single discourse].
    - Michael Stubbs, *Discourse Analysis: The Sociolinguistic Analysis of Natural Language*. [139]

As a significant aspect of much of general social theory, but primarily as a key conceptual tool in both Structuralism and Post-Structuralism, the subject of 'discourse' and its associated analyses shall be discussed in order to build an understanding of the intricacies of both environmental and architectural discourse (and their outcomes in physical from) and their relation to the proposed *Critical Environmentalist* position. In order to begin to build meaningful connections into this epistemological relation, one must be able to analyze 'discourse' itself, *how* it is formed, *how* it becomes legitimated, and *how* it plays a distinct role with both knowledge formation and practice (thought-in-action). Much of how we know and act in regards to the environment is conditioned through the socially institutionalized documentation and production of knowledge as primarily manifested and conveyed in its discourse. This discourse plays the dominating role of setting the pace for the legitimization, transference, and application of

knowledge, *how* we may or may not know or approach things and *what* we should or should not do. A study of 'discourse' itself can indicate pervasive, overarching polemics and thus the need for expanded criticality in our knowledge-base. Generally guided within particular avenues, architectural discourse itself is not generally directly aligned with critical theory nor environmental issues, much less in critical analyses of its own discourse content in relation to issues or problems at hand that might go otherwise unaddressed. Significantly, this section brings to light that discourse is not to be taken for granted as without intentions, polemics, flaws, or conflicts of interest. Often discourse is taken as unquestionable authority, fact, or rule, almost in a theological sense, and can lead toward an equivocally uncritical practice. Through this critical analysis, we can begin to understand the both problematic and useful stature of discourse, but then lead by the same instruments to begin revealing how we may incorporate this understanding to architectural discourse. The goal here is to gain an understanding that discourse can be manipulated and transformed away from dominating, singular or isolated views toward a broadened, critical position in relation to a range of issues and thus better address current environmental problems.

'Discourse' can be generally defined from multiple disciplinary viewpoints and even within them in multiple ways. However, a distinct definition can be distilled in direct relation to the proposed conceptual framework. First, from a general standpoint, discourse is generally viewed as the continuous, inter-active expression or exchange of ideas through connected conversation or dialogue along particular lines of a shared topic. This covers everything from discussions or lectures to written works and mass media

and its transference is determined by the degree of acceptance or interpretive understanding of its audience. Discourse fundamentally covers the most prevalent aspects of a particular subject matter and its questions- or problems-at-hand within a specific context, as in what this research is attempting to convey. It also covers distinct linguistic operators or terms (language, signifiers, and meanings) within a given subject-domain and how the subject is understood by the people who operate within its parameters and with each other (its networked speakers and actors). To the old adage, "it takes [at least] two to tango," it is a way of talking about a subject from a particular point-of-view, *aimed* at the relationship and reciprocal understanding of another's position.[140] What we question in this, are the roles and perceptions of the particular points-of-views, their intentions, and their degrees of authority or empowerment.

To Aschcroft, Griffiths, and Tiffin, in *Key Concepts in Post-Colonial Studies*, the idea of 'discourse' is a basic and widely incorporated "theoretical unit of analysis" (concept) within primarily poststructuralist philosophy (as it is with critical theory and the hermeneutics of text).[141] To them, it is most specifically associated with the work of Michel Foucault, who analytically discusses discourse (coupled with our notions of *episteme*' and the 'archaeological' structure of knowledge) as a system in which certain knowledge(s) are made possible and conditioned within its social structure. To Foucault, a discourse is an "institutionalized way of thinking and speaking" and sets the limits of *what* can be spoken and, more importantly, *how* something may be spoken (or understood).[142]

'Discourse' as a subject itself is a key analytical feature within the ideologies of *dialogue* (as in hermeneutic analysis) and of *inter-subjectivity*, as "the 'construction' of the subject itself can be seen to be inseparable from the construction of its others"[143], inclusive of other selves, nature, our socio-cultural structure, urban fabric, *et al,* as also forming a greater and co-affective (with respect to Spinoza's ethics), environmental domain. Although similar in nature, but not to be confused, post-structuralism is not concerned necessarily with hermeneutics, but more with the structure itself and the dominating nature toward knowledge and the subject. Foucault elaborates about the hegemonic construction of subjectivity established by institutionalized discourse within certain historical, social and cultural systems of knowledge in a society.[144] As such, discourses determine the institutionalized validity, and thus institutionalized understandings within particular domains, set and perpetuated (by their nature to do so) by dominating power structures. An understanding of this institutionalization leads to an understanding that dominating structures often determine or delimit what we can know and how we may act upon something as well as how we may never know or act.

For Foucault, a discourse, beyond the act of simply re-presenting, is an overtly bounded area of knowledge (*episteme'*), a relational system of enunciations within which the world (or environmental domain) can be known. In lieu of simply talking *about* a subject, discourse itself is intrinsically entangled in its structural, often dictating, environment (with distinct institutions/conventions) in which it is brought into being, a structure often unaccounted for and unspoken (hidden, taken for granted). In this, the relation between the subject and the structure is conveyed and perpetrated by discourse.

As linked to the construction of subjectivity, this knowing of the world includes how we know ourselves (as acting, conscious agents) and our relation with the 'other' and our 'place' in the world as part of our understanding.[145] A predominate structure that views the environment, *or life-place*, as different or corrupt, also tends to place that environment in an increasingly secondary or disadvantaged position intellectually. But also, within our linguistic or lexiconic structure, if the 'environment' as a concept is defined as exclusive, exterior, or as a surrounding space in generic terms, then we may never get to an idea that it may be discussed otherwise. Our primary understanding along these lines is therefore also wrapped-up and retrained in our linguistic habits, thus also restrictive and reductive in its possible meanings and usage.[146]

A primary authority in English linguistics, Michael Stubbs (as quoted above to start this subject) defines the term within the methodologies of 'discourse analysis' as fundamentally concerned with: "language *use* beyond the boundaries of a sentence/utterance" (as also Foucault refers to social structure wherein knowledge is conditioned), "the interrelationships between language and society," and "with the interactive or dialogic properties of everyday communication (as with communicative action)".[147] To Louis de Saussure, discourse analysis is also often paired with Pragmatics,[148] as it also deals with language as constituents of meaningful units of discourse and how they play in everyday communicative applications.

Reiterating Nietzsche's *Prison-House*, a societal formation based in language is likened to a high-security prison, within which we cannot imagine anything outside nor imagine any way out. It is a necessary and subjugating limit to both thought and inquiry

that one must critically acknowledge and endeavor to deconstruct. Or more positively, upon the critical realization toward emancipatory action, it can be a rich palette for creative endeavors within its cultural variegations. In either case, it is something to which we are still bound. To Ashcroft *et-al*, "Just as the subject is produced by, and must operate within, the laws of language [interpretively, the text], so discourse produces a subject equally dependent upon the rules or conditions of the system of knowledge that produces it. In this respect, discourse is both wider and more varied than either ideology in which the observed find themselves constituted. When a writer takes this position, the invulnerable position of the observer [or interpreter] affirms the political order and the binary structure of power that made that position possible." [149] It is important to note that this research is not about language *per se* (semiology, sign, semantics, syntax,), but a recognition that the language we use is bound up with how we use and transfer knowledge, as well as structure. Since all cultural artifacts are formed under the same auspices, a critical understanding that language too (no matter what form) can be subject to re-articulation thus able to foster emancipatory mobility is significant, if not crucial to the proposed position.

Physical cultural artifacts themselves, as with architecture, form within the terms of discourse as they are both conditioned and condition how we may know our shared environment or *life-place*. Like our discussion of language, these artifacts both form and inform knowledge. In themselves, they play a role in the formation of the body of knowledge, reiterate their institutionalized structural conditions, and further determine how we experience the world. Griselda Pollock, a critical-feminist social theorist on the

matter, argues that one "cannot make a separation between reality ['real' relationships] and signifying practices [as in the making of societal representations, including the cultural artifacts and socially constructed spaces of architecture].[150] They are bound together in the same way social discourses are constructed, as parts of 'real' experience (being and knowing) and the production of knowledge. Accordingly, in order to make any intervention in discourse, theory, or practice, we are required to engage critically and with thorough-based analyses of ideology and codes of representation in their contextual specificity.[151] In order to understand discourse, its relation in the field, and the construction of discourse differences (privileging one over another), one needs to analyze "the contexts, transformations and definitions" of the subject matter in numerous discourses to get an overview[152] of how these are manifested, made legitimate, and/or directed towards the construction of new meanings as the conditions for future knowledge. [153]

In critical-feminist studies, primarily that which the *Critical Environmental* position is most akin, 'discourse' (as with any subject matter) is never *neutral*, but is imbedded with material values, intentions, biases, and ways of believing and acting. Thus the status of discourse itself is raised to trying to understand it in terms of the structural relations between social reality and language, negotiating differences and privileging between varying or dominating discourses. Here too, it is often argued that "discourse is the primary instrument of domination (as with socio-environmental injustices) and that struggles for authority between discourses is an issue of political and critical, emancipatory significance.[154] To Aschcroft *et-al*, "Discourse is important,

therefore, because it joins power and knowledge together….Those who have power have control of what is known and the *way* it is known, and those who have such knowledge have power over those who do not."[155] These collective notions extend the parameters of 'discourse' beyond just 'written or communicative material,' something that can be treated as *neutral*, to that which is both constituted by and that which constitutes a structuring or regulating system of patterns governing the meaningful combination and/or incorporation of ideas into the larger effectual domain of knowledge. As such, 'discourse' here refers to all texts or representations (all cultural artifacts that have capacity to carry meaning) that contribute to *shared-meaning*. These are characterized by "cultural responsive knowledge"[156] - that is, constructed within cultural frameworks and thus are "affected by intentional or unintentional uses of power [or authority].[157]" It may be very likely that architectural discourse in particular may not address environment issues effectively as a whole simply because it has been conditioned to address or privilege other concerns over or against environmental issues, as well as to never question its own discourses. Without criticality of these discourses from the environmental range, we may never fully bring our discourses or practices to their full potential to do so.

Akin to critical feminist, epistemological studies, this research considers that dominant, traditional modes of architectural discourse often conflict with and/or force a subsidiary position for environmental issues. The hegemonic, dominant epistemology permits or even promotes varying forms of indifference and discrimination, thus setting the conditions for thought. Certain forms of thought are inevitably subdued and thus

never reach mainstream discourse and subsequent practice. The associated feminist critical inquiry instead looks at cultural modes or thinking that is not usually considered mainstream or that which is generally thought of as subdued, secondary, or even inferior to the hegemonic, epistemic paradigms (knowledge systems). Epistemologically from this critical position, this research proposal promotes the incorporation of multi-methodological approaches that identify alternative ideological modes that counter dominant traditions in favor to a more direct dialogic connection with social and environmental discourse.

In addition, as re-substantiated by Ashcroft, *et-al,* "Foucault's view of the role of discourse though is even wider, and more pervasive, since he argues that discourse is the crucial feature of modernity itself."[158] Since architecture can be considered both subject to and physio-spatial perpetuator of this Modernistic state, this notion is of particular concern to this research in regard to the current view toward the environment. As such, we can extend our discussion about the environment to particular lines like 'Euro-centric discourse', Western/Occidental philosophy, or to the 'discourse of modernity' (each particularly related to our current views in architecture and its relation to current problems) and *how* "a system of statements that can be made about the world that involve certain assumptions, prejudices, blindnesses and insights, all of which have a historical provenance, but exclude other, possibly equally valid, statements" or modes of discourse.[159] Similarly to Edward Said, in his discussions of Orientalism *vis-à-vis* Occidentalism or Colonialism, who points out ways of consciously knowing discourses (its 'terms') in relation to the whole world of cultural relations, as we now also know the

'environment' from the same Euro-perspective, is a way of maintaining power over it and eliminating views which may counter or threaten the Euro-centrist dominant position as superior. [160] In lieu of a passive or bottom-up understanding, the Western Colonial view tends to define terms as an offensive in front of itself. In a pre-dominating or disempowering state, it protectively terms or defines things from *its* point-of-view, not respectfully of the 'other' of which it speaks (as in 'lesser cultures', or 'third world, high or low arts or intellectual forms). This has the effect of relieving and disempowering the subject as insignificant or without its own grounds for intellectualizing. This includes discussions of the environment in Euro-centrist discourse as more often than not has been placed in the dubious position as secondary or subservient, material resource. Even further along these lines, as discussed in the famous Lynn White debate[161], as thought of as 'corrupt' (generally not associated with the 'pure spirit' of the Judeo-Christian stance) and thus in need of gentrification or the 'taming of the wild' for the benefit of the superior human condition.

Again to Ashcroft et-al, it represents a "complex of limitless, institutionalized codes, rules, signs and practices which organizes social existence and social reproduction'.[162] And, they determine the nature of specific discourses and even determine which rules can or cannot be privileged, despite the particular situation-at-hand. These rules concern such things as the classification, the ordering and the distribution of that knowledge of the world that the discourse both enables and delimits. In this case, the rules of this system determine how we view environmental processes, the identity of its players and, in fact, encompass the ordering of our physical

relationship with the world. There are principles of exclusion and inclusion that operate within this system; some things can be said and some things cannot. This explains, from the Western ideology, the very resistance in modern, deterministically technological modes *vis-à-vis* socio-cultural modes or practices which may be more substantial and epistemologically tied to their distinct social and environmental concerns. Instead technology itself, often ideologically and ironically untethered to the *human condition*, becomes the dominant tool as well as justification of power. These 'other' more subtle and place-oriented modes, while more critically and environmentally based, represent to some a threat to 'progress' (a dubious term in itself) and the habitual customs of authority (represented in practice) supported by a discourse that is almost theologically protected. [163]

From this *discourse analysis* point-of-point, architectural discourse as a whole can be said to essentially exert a similar dominating view, primarily rooted in the same Occidentalism and Colonialism discussed previously, which guides its frontline discourses. As also manifested in its most popular aesthetically-oriented works as the essential content of its discourses and compared to both environmentalist and critical theorist positions, its productions tend to sway away from both social and environmental issues at a very fundamental level. Instead they seem to promote overtly singular or reductivist views, ideal aesthetic or technological positions or so-called conceptual processes, however quite indifferent to the issues presented in the other distinctly environmentally oriented disciplines. While there are efforts to extend the architectural discourse into these avenues, the dominant mode remains intact as manifested in its

physical artifacts. Ironically, the 'popularizing' of this discourse fosters an additional 'punch' toward an institutionalizing of knowledge and action through social pressure (what is 'cool' or not), quasi-intellectual dictates, and overt graphic propaganda. Its discourses have even been likened to theological positions, thus further removing the possibility for criticality, emancipatory self-knowing, and for the most part, the key creative individuality and innovation needed to solve real and changing problems at hand.

Continuing this line of thought, Ashcroft *et-al* state that Foucault's "concern is more widely distributed across a variety of social institutions," as they particularly relate to knowledge construction. Similarly to Foucault in his *Archaeology of Knowledge*, this current research does not aim to "reconstitute (necessarily) the system of postulates which governs all branches of the knowledge of a given period" or in the given subject-matter, but attempts to cover a "field of relations" and connective concepts of which the discourse, and thus knowledge involves. Moreover, paraphrased from Foucault, an *episteme* is not a static figure, but is a "constantly moving set of articulations, shifts, and coincidences that are established, giving rise to others." The components are always dynamic, engaging and reforming dialogically. The components established for this research are simply seen as an epistemic framework or "field of relations" about which architectural discourse can move or distribute itself in regard to the environment, albeit established by the author and his position. To Foucault, the epistemological mutation of history, as with our social formation, is not complete.[164] The revolutions of its

discourses till have much to offer, especially in regard to current socio-environmental turns.

Operating within the auspices of 'discourse analysis' (with particular reference to M. Stubbs' position), the research categorizes complicated, discursive subject matter into conceptual units composed of several propositions (thoughts, sequences, conversations, arguments, and/or polemic positions). It is not generally viewed as a "coherent set of well-defined procedures, but a proliferated theoretical approach that can attempt to cover a broad range of methodical devices," albeit formulated within an interconnected framework of subject-matter.[165] As in Foucault's analogy of the *panopticon*, the writer (like the prison-guard viewing his range of influence from a multi-visual vantage point) "is placed either above or at the center of things, yet apart from them so that the organization and classification of things takes place according to the writer's own system of value." [166] In relation to this research, a panoptic view is developed, as shown in our categorical components, to allow us to see a greater inter-relational field through a cross-referencing and de-centering of categorical filters, viewing a particular conceptual range, as it plays in our scenario. This multiplicity of views set into dialog increase the possibility of cross-validation and addressing multiple issues regarding environmental discourse and its relation to architectural, primarily urban endeavors. As such this research, in regards to its relation to critical discourse analysis, has the possibility to 'rupture dominate assumptions and practices' (with respect to Henri Giroux), but also provide methods or conceptual devices leading to transformative action, primarily at the heuristic or analytical level leading to alternatively informed design interventions.

Counter to the ocular- or logo-centrist position of many paradigms, a critical survey (like the *panopticon* viewpoint) of the negative effects of modernistic and generally unaccountable (separated from the conditional problem) human domination over the environment can lead toward an understanding of the consequences marked by multiple levels of injustices (i.e. ecological, biological, racial, sexual (gender), economical, etc, etc.). To many in feminist studies along these lines, the same mindset that is cruel to nature, primarily institutionally conditioned and reinforced, is the same mindset that is cruel to another being or ambivalent to their effects within society.[167] This can also be paired with the notion that modernistic domination promotes a certain universalistic 'flattening' of the world that also leads to a loss of nature and inevitably a loss in personal identity and one's spirituality, and idea also reinforced by many in the current technological determinism associated with digital marketing and globalism.[168] In this, a critical method paired with hermeneutic inquiry can attempt to build a broader, thicker dimension toward the world. This thickened, vertical dimension is key to acknowledging, understanding, and engaging the environment at multiple levels. For without the vertical dimension, navigation and inevitable understanding beyond the surface could not even be considered an option, thus declining emancipatory empowerment.

Beyond basic discourse or textual analysis, Foucault expands the theoretical basis of his analyses to what he terms *dispositive analysis*, to theorize and analyze the heterogeneous as well 'non-linguistic' nature of elements.[169] Epistemes operate not just as random heterogeneity, but according to a connected set of parts within distinct

procedures or plans. These operate together at both discursive and non-discursive levels, both on the textual surface as well as within otherwise ordinarily considered 'non-linguistic' features.[170] Joannah Caborn, in "On the Methodology of Dispositive Analysis," identifies that "in everyday French, the word '*dispositif*' is used to describe a system set up for a specific purpose," whether intentional and on the surface or not. Caborn goes on to describe that it can mean "how the constituent parts of a device, machine or mechanism are organized" or as in military use of the word as "a group of tools and techniques which are set up according to a plan, such as a plan of attack." [171]

To Foucault, a *dispositive* is a "decidedly heterogeneous ensemble" of elements "ranging from buildings to laws to scientific statements."[172] Caborn points out how Foucault incorporates the analogy an everyday alarm system whose elements are 'decidedly heterogeneous,' inclusive of the hardware, consisting of the use of material resources and technological components, as well as the user's and creator's exclusive acquaintance with the security codes and modes of operation. In addition, this characterization of the *dispositive* also includes the significant connections and interrelations *between* elements, as well as the potential interchangeability of the elements. Analogously, the operability of alarm system is dependent on its connection with its internal sensors as well as coded to work in an exclusive way. Equally, the coding method for an alarm's security may also be interchangeable with the same coding methods used to withdraw money or password a computer. [173] As well, the technological components for the alarm may also supply like components and allow for other sensor-operated devices to emerge from similar linear developments and with similar intent.

In this, the *dispositive*, heterogeneous structure of elements includes not only discourses, but also "institutions, architectural structures, prescriptive decisions, laws, administrative measures, scientific statements, philosophical, moral or philanthropic propositions, in short: words, but also what it not expressed in words," all connected within varying fashion to our social structure and episteme. This analytic also allows for some of the elements to be considered distinctly and consciously linguistic or 'texual,' while others may not, as in the institutions and architecture. To Caborn, this means that "the heterogeneity is couched as a question of language versus object."[174] The 'object' in this case can include any cultural manifestation that carries both meanings in itself and can be referred to epistemologically, thus knowledge forming and being known.

In this way, discourse is inclusive of its effects and manifestations where linguistic meaning may otherwise be overlooked or taken for granted as neutral, as in our relations and manifestations within architectural systems, urban fabrics, or other socio-environmental systems, all as products within an episteme. These elements can be viewed subtle working parts of an episteme, its supporting mechanisms at even small, seemingly inert, insignificant, or obvious scales. For large-scale community development, the lines we draw that establish transportation patterns, distance, and energy-use are similarly dispositive and inevitably form the same lines that create social distancing, sprawl, economic and racial zoning, cultural boundaries, and land-use problems. The inherent epistemes within these manifestations are also indicative of its relation (or not) to environmental concerns, wherein a dominant, counter-environmental mode may run deeply embodied within even intricate details and everyday practices (and

products) and which may only surface when identified as distinctly connective and problematic (like when a part of the alarm system does not work and effects all others). We tend to notice only when ecological issues conflict at the intersections of human physical manifestations, as with flooding or land slides. The working parts which support a counter-environmental episteme can be analyzed in such a way to develop critical and strategic measures which result in a cascade of effects within the mechanistic structure, for a more holistically positive co-existence of endeavors. Analytically identifying the connections between the manifested cultural object to the systemic nature of the episteme and how they are fundamentally related to environmental issues at multiple scales (in even its subtle details) remains a fundamental procedure to effective transformative action. The cultural object seen in subsequent chapters will be the urban setting formed through complicated epistemic relations at multiple scales.

Key Components of Critical Social Theory

Philosophers have only interpreted the world, in various ways;
the point is to change it.
         - Karl Marx, *Eleven Theses on Feurbach* [175]

Critical social theory generally negotiates about varying notions of 'self-consciousness' within its social structure, "its historicity, its place in dialogue and among cultures, its irreducibility to [singular] facts, and its [critical] engagement in the practical world."[176] According to Brian Fay, in *Critical Social Science: Liberation and its Limits*, the basic epistemological threads of the *critical social sciences,* as he prefers to term it, are that they can be altogether *scientific, critical, and practical* (applicable, satisfies distinct problems or human needs). Significantly, the term "*critical social*

science," is intended to move beyond its singular association of Critical Theory with the Frankfurt School[177] and to be inclusive of its many expanded approaches such as critical epistemology, critical feminism, race and gender studies, social psychoanalytic theory, practical hermeneutics, communication studies, legal and policy studies, as well as distinct environmentalist positions along its lines, etc.. Within this multi-methodological framework, Fay identifies the basic accepted schema of the critical social sciences as being composed of four (4) major systematically and co-operatively related theoretical positions (also referred to as key analytic components or meta-theories) identified as *"false consciousness, crisis, education, and transformative action,"* as well as various sub-theories which tie them into closer association. However singular in its categorical rationale, to Fay, the general focus within these schemas is on the ontological and connective nature of the theoretical positions. Therefore, he extends the discussions to questions about critical theory's primary "ontological conception of humankind" to a 'rationalist ontology' described as *"an activist conception of human beings,"*[178] fundamentally constituted by three basic elements: *"a theory of self, a theory of society, and a theory of history"* (primarily of actions).[179] In lieu of a simple relationship of possibly static or neutral parts, the 'activist conception' links thought and knowing with material action as singularly and dynamically co-constituting. This ontological relation of human knowing and action has proceeded in recent discussions as being also very associated with the environment. Here we can also disuses how human knowledge is structurally conditioned within environmental dynamics and where human action intersects the environment as co-constituting as well as problematic at multiple scales. It

is very likely that the same social issues we face are linked with environmental conditions, as seem in economically impoverished areas intersecting ecological disasters.

In the above categorical stances, Fay also attempts to extend the epistemological limits of critical social sciences and suggests that in order to amend and strengthen the ontological structure, there is need for a revised *theory of body*, a *theory of tradition* (or acknowledgement of socio-cultural, ideological, epistemological, and material tradition and history much like such figures as Gadamer has addressed), a *theory of reflexivity* (mediating or negotiating between one's own position and its relation to other positions), and a *theory of force* (action and application).[180] A "theory of body" coupled with a "theory of action" seems to be the vital starting point and reference to which the other theoretical positions come back for identifying and emplacing the knowing agent within its dynamic milieu, as will be discussed in subsequent chapters of this research.

To Fay, the *first* significant theoretical component within the critical social sciences is the idea of "*false consciousness,*" rooted in the Humanist idea of the "*self-estranged*" identity and its agency (its capacity to act) within society. A concept rooted in Marxist theory, *false consciousness* is often paired with over-arching *ideologies* that prevent critical-awareness from manifesting. From this key essential position, the critical social sciences engage the processes of self-negating hegemonies (dominant views or structures) that advance against self-knowing, reflexivity, and individual identity. In-turn it also attempts to lead toward the self-awareness and -empowerment of individuals within their institutionalized and sometimes dominant social systems.[181] The self, being engaged with(in) a community of affairs and in a vital relation within an

environment that sets the spatial conditions for interaction, is brought to awareness

through means that allow self-understanding and clarity of the probability to emerge free

of dominating institutions or truncated ideals which may override that goal.[182]

Beginning with the 'self' and the self as part of the structural conditions for

problems, a conscious understanding of the **"crisis"** can then emerge (becomes

possible), Fay's *second* theoretical dimension within the critical social sciences. Rooted

in *crisis,* a common problematic objective which brings intents and desires together, the

structural social components (agents in inter-action), including the critically aware self

as key, adhere and foster applicability and impetus or *force* for action.[183] Hermeneutics,

discussed in depth below, itself is a dialogic conscious process that allows personal

dimensions and magnifications in relation to specific goals to emerge, but also leads

toward negotiation of multiple views (horizons) or desires so they may interact and

'fuse' (with respect to Gadamer) in productive and applicable ways. Beyond this

personally enlightened state, critical theory must be *rooted in-place* (situational,

contextual) and empowered with the practical force (an applicatory prowess) it mandates

in order to become an enabling, co-motivating fund for its participants. A key aspect of

knowing one's self is a distinct socio-communal relation to the *crisis*, as in lifting one's

self up as an important part of a greater need, beyond just one's own well-being. The

transformative significance for one's self has to be paired with knowingly negotiating

possible avenues, not just for oneself, but also for others personal emancipation and

happiness. By making this possible for others, the self can become more fulfilled,

mobile, and thus empowered to engage (along with their other agents) toward additional issues.

An empowered, critically aware self is dependent on "***education***," Fay's *third* theoretical dimension, albeit one that supports and fosters critical awareness and transformative emancipation.[184] Keeping in mind what we have learned from discourse analysis, that essentially education discourse is problematically at the root of institutional domination that tends to perpetuate a detached and oppressed state of being. Form this awareness, we can direct education from simply analytical and repetitive modes toward critical and *transformative* engagement. Significantly, the crisis itself becomes the disempowerment and disability to simply recognize and understand one's relation to the crisis when one is internally enmeshed within the same conditions and legitimization which make the crisis possible. In addition, there lies the problem of also recognizing a state of 'disparity,' wherein the current epistemological state and the methods provided simply are on conflict or do not match the problems-at-hand. Therein, a distinct problem of education is that it generally leans toward dominant modes that set the conditions for thought in such a way that it may not match current and distinct *crises*, as in current environmental concerns. In this, there is need to have a framework in place which continually refreshes and reinforces the distinct state of critical awareness to the potentiality of crises, but one that allows for movement and critical negotiation within multiple scenarios and contextual situations.

Education must be raised beyond what is considered simple 'massification,' those traditional forms of singular, controlled criteria, the 'basics' and/or general or

'universal' knowledges conveyed to larger masses of population across multiple conditions. Generally, if problems (crises) fall beyond the ranges of traditional approaches or conditions for knowledge, those rooted in history, authority, power, or just repeated facts, the institutionalized subjects may not be able to transform to meet the crises-at-hand, thus delimited. Instead, education is further enabled through the socio-communal transfer of knowledge *in situ* and in particular contexts or problems. In the case of this research, the *crisis* is environmental as well as social as both have a key structural interdependence with the condition of an empowered or disempowered self.[185] The ultimate understanding or 'grasping' of these additional modes for a consciously and critically *understanding-self* fundamentally resides in the epistemological conditions for thought that the *crisis* entails.[186] Many disciplines are deeply entrenched within traditional modes which may prevent parity or correspondence with current issues like what we now have in regard to architectural endeavors in relation to environmental concerns.[187]

In this, Fay also explains that "critical theory requires liberation from a social order [rooted in *education* and a *history of action*] occurring partly as the result of the absorption of itself by its audience – that liberation results from the enlightenment of the subjects of critical theory."[188] 'Critical thinking,' a term used in education studies, reiterate that knowing and reasoning initially requires a 'critically aware self' (embodied, corporeal intellectual and interactive agent), what critical realism refers to as an *"embodied intentional agency."*[189] As a pedagogical guide to critically aware beliefs and thought-in-action, it fosters reflective evaluation of the quality of one's own self-

reasoning and a tolerance (or even celebration) for others, as well as for ambiguity and multiplicity of differing views. It promotes the practiced (disciplined and self directed) ability to think clearly, to analyze, and to reason logically and socially in order to generate options and make discriminating judgments. This awareness is ultimately dependent on social upbringing and a framework of education that supports and fosters critical thinking. The self has to be brought up (educated) knowing communally accepted forms of knowledge, values, and conventions passed on through the social system. Intrinsically, the individual self and its identity within the social realm cannot be removed from productive action, the social construction of the world to mutual and enlightened benefit.[190]

Critical thinking as a key subject of concern is also discussed by such prominent figures like Paulo Freire in his pivotal works, *Pedagogy of the Oppressed* and *Education for Critical Consciousness*, wherein such a process of enlightenment is referred to as *raising the consciousness of the oppressed* to a state of individualized empowerment. The subject of *critical education* also covered in depth by such persons as William Perry's studies on moral and ethical development and later by Gilliam, Facone, and other critical theorists in regard to critical thinking, ethics, and education.[191] In these critical education stances, the concept of *reflexivity* is a key feature. This reflexive mode requires again that a critical-self is able to understand their own active place as reciprocally effective within the *crisis* and within their social spheres. It also is important that this critical-self (agent) is aware of the crises, the possible avenues for action, the forces-at-hand, and has the capacities (agency) to effectively develop multiple, possible

ways to get at them. In addition, *reflexivity* fosters a mediating position that negotiates interdependence of views and conditions from subject to subject. From a general standpoint, '*critical thinking,'* itself is viewed as the ability to see situations from multiple viewpoints and then to critically and ethically engage negotiations between them toward common, effective goals. To van Wyk, in "Exploring the Notion Of Educational Transformation," "the idea of *critical transformation* [aligned to the concept below] sees quality in terms of the extent to which the education system raises and transforms the *conceptual* ability and *self-awareness*" of its active learning agents and how they "relate them to a wider context." [192]

Along these lines, 'discourse' as also a subject in *critical education* is often paired with the useful notions of *reflexivity* (Pierce, Freire, Schön, *et al*) and *critical consciousness* (as also discussed in critical social theory), as will be discussed in the subsequent chapters of this research discussing knowledge systems, meanings, and values. The idea of *reflexivity* as the general sense, involves self-acknowledgment and one's structured place in the construction of knowledge and the capacity to critically mediate and discern between distinct, multiple views and within one's own subject and discourse. In other words, one must stop and take a 'deep breath' of the situation before stepping haphazardly into the same set of conditions that may have enabled the problem in the first place, or as Albert Einstein is known to have stated (paraphrased), "the significant problems of today cannot be solved by the same mind or conditions that created them." By the same token, environmental problems cannot be solved solely by the same means (be it epistemological, social-cultural, institutional, intellectual,

material, etc.) which perpetuate them. They have to be broadened to an equivocal and interactive relation of discourse(s) that check and balance each other in a grander sense. Critical thinking in environmental terms, as a distinct position in the above educative stance, involves consciously and systematically organizing complex, multi-dimensional factors playing a co-substantiating role in the total environment. This fosters a view that environmental issues have to be seen from a position where one can view multiple points-of-view simultaneously, and know how they may interact, in order to negotiate reflectivity.

Re-substantiating environmentalist David Orr's observations on the intrinsic nature of environmentalism and education, all discourses are interconnected as essentially environmental at their ideological and epistemic 'root' concepts and thus collectively determine what is possible to know about the environment and how its parts may interact. Pragmatically, speaking of discourse outside of this epistemological range is logically impossible, for it takes knowledge and a place or environ for it to occur as the essential starting point. However, some discourses, leaning away from this premise, become dominate (hegemonic) over others in addressing a total set of conditions and thus unaccountable determinants of overall knowledge(s) about the environment and how we address our problematic situation, which is where we are at currently in the discussion of the environment for this research. This promotes the idea that architecture falls *under* the umbrella of environmental concerns, in lieu of the present condition of the subject of environmentalism as a subset of architecture. Before we can address the issues and move forward productively, we have to view ourselves and know how we (as

agents) are structurally bound and epistemologically accountable to an understanding of the environment that may be otherwise inadequate.[193]

Key to informing a critical stance in education are the varying conditions and possibilities for an authentic *critical inquiry* to occur.[194] These pave the way toward co-enabling and emancipatory participation and the subsequent goal of "***transformative action***," Fay's fourth theoretical dimension identified within the critical social sciences. This critical inquiry is "rooted in critical theory's attempt at raising social order itself as a catalyst for this *transformation action*.[195] As both the delimiter and facilitator of an inevitable critically *transformative* state, one must first acknowledge that the self is brought up to know common socio-communal values, conventions, and traditional foundations of communally accepted forms of knowledge and must understand how these are bound within a history of action and passed on through the social system. A *theory of history*, centered on action, acknowledges the formation of knowledge brought about in a continuum of thoughts, discourses, cultural practices, traditions, as well as manifested in physical cultural artifacts (architecture, art, poems, and literary works). According to Fay, *transformative action* fosters deep-rooted restructuring and re-alignment of the conditions for understanding. To van Wyk, the real "challenges of the transformation" reside here in "the degree of cultural change required," wherein "we must transform rigid habits of thought and organization that are incapable of responding to change rapidly or radically enough" to meet the current crisis. These notions advocate resistance against the conditions of "alienation" and "slowing of [revisionary] change

within seemingly durable and dominating modes of thought" that privileging some views over others, reiterating our discussions on discourse analysis. [196]

Adapted from van Wyk (after Duderstadt), this research intrinsically fosters four conditions for educational transformation that support a critical-self-in-relation to environmental action identified as: *critical inquiry* (defining and understanding the problem from multiple views), *equity and redress* (shareholder ownership of the problem and remedy), *communicative [hermeneutic] praxis* (communicative action, Habermas), and *community building*,[197] Since human condition are bound up with environmental problems, these key aspects are essential to getting *at* the problem. These critical stances instead aim for educating its participants to be transformed into collective action and application through alternative methods in direct relation to communally shared, contemporary problems or crises. In lieu of simple 'reform,' it is fundamentally revisionary, operational, emancipatory, and co-enabling for all its knowing stakeholders.

To Fay*, Liberatio*n and *happiness* of the individual (emancipatory component of critical theory) is achieved through knowledge and political engagement and conscious and critical awareness of the problematic and poli-fold nature of society and knowledge. Reiterating the notion of critical awareness, Fay states that rational direction of history toward 'enlightened societies' is accomplished only by "intelligent, curious, reflective, and willful" agents. These agents are complements who empathetically understand society and the crises therein as basically conventional and who consciously and actively pursue as such for all its participants. Key strengths and values revolve around the agents' ability (agency, capacity) to reveal through "*genuine narrative*" and to raise the

conscious, lived *embeddedness* (emplacement, nestedness) of the self within a history-of-action, wherein *self-estrangement* is negated through "rational self-clarity" or "true consciousness" and leads toward "collective autonomy" and well-being of its multiple agents. The following Figure 2.1 diagrams the basic features of critical social theory complied from the above points-of-view on the subject, but also it places their categorical positions alongside socio-environmental goals for epistemic mediation between its divergent facets. This format provides the basic framework underlying the *Critical Environmentalist* position. This diagram will be paired later with a composite diagram of these categorical positions in relation to fundamental, corresponding postions with environmental discourse as an overall model. The next sections of this chapter will discuss historic, cross-cultural implications in sociology and lead into a discussion of critical hermeneutics as a key mediating approach to the issues.
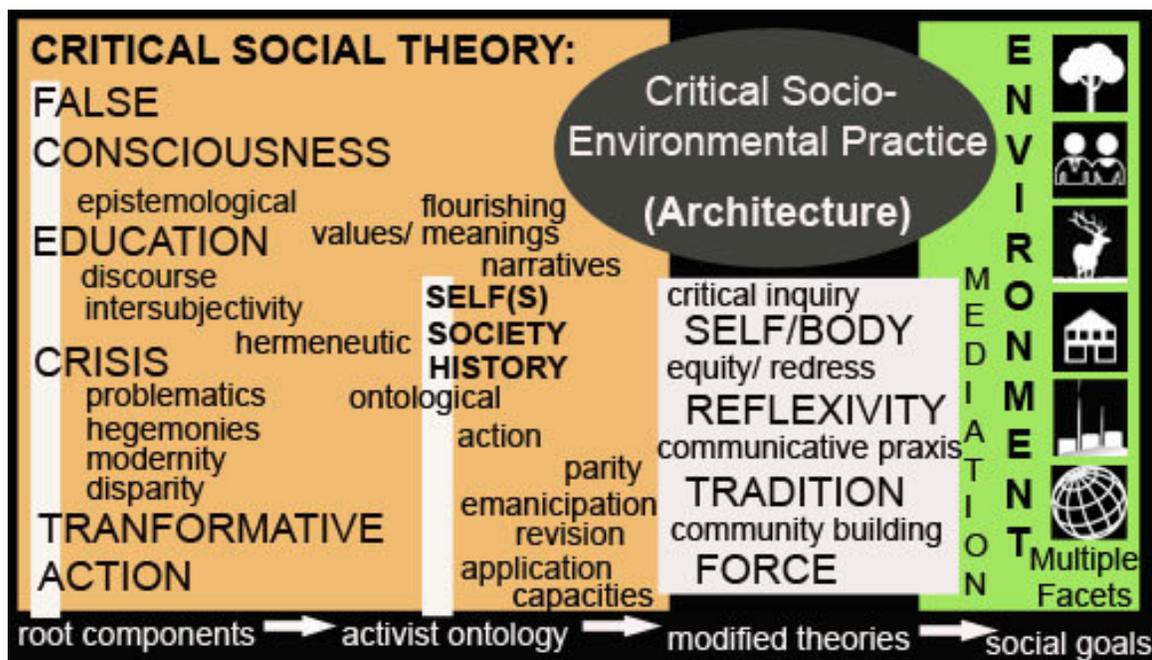
Figure 2.1: Critical Social Theory Components in Relation to Environmental Facets.

Historical Precedence and Current Social Goals

As part of a reiterative history, many of these key notions are reminiscent as well to the philosophical writings of Ibn Khaldun, in his famous *Introduction to Sociology* (ca. 1377), whose ideas on the subject still ring with extraordinary relevance today to sociological studies. As a root discourse along these lines, Khaldun sets an early pace for these social ideals, noting that fundamentally knowledge of the society is essential and continual throughout history, as are its crises. This knowledge, epistemologically, is the impetus to understand the relationship of change and ideology, especially to this research as related to current environmental concerns.[198] Significant to the proposed position and its relationship to architectural endeavors, Khaldun's work also offers a corresponding discussion of urban and socio-cultural development, as he also *places* conceptual notions within the necessary conditions for physical planning and construction of cities through the idea of "*umran,*" which means essentially 'culture.'[199] Here he indicates the necessity of understanding the dialectic between civilized and (un)civilized (or perhaps intangible) urban society. His notions of culture (*umran*) correspond with those of modern sociology and anthropology, wherein it "*means the cumulative social heritage (ideas, attitudes, and activities) of a group as objectified in institutions and conventionalized activities in a particular time and place.*" The principal modes are to: "live, inhabit, dwell, continue, and remain in a *place*; to become inhabited, stocked, or *cultivated* (not necessarily in an opposite state to nature), and to be in *good repair* (sustainable, on-going process); cultivate, build, institute, promote, observe, visit, or aim at a specific *thing* or *place* (substantiated meaning and *telos* (goal)

within a continuance of urbanity).” Since “man is political by nature,” human social

organization facilitated within a city (*madinah*) and cultivated through education

(*madrassa*) is a necessary part of civilized and flourishing being.[200]

Therefore the idea of the *umran*, as a model for this discourse, entails a total

“*complex* of human activities and their *cumulative* social and cultural achievements”,

which Khaldun links to natural and essential manners of making human life (inclusive of

food, clothing, dwelling and other “necessary conditions and customs”.[201] To him

necessities are prior to conveniences, thus the primitive nature or necessities, are prior to

the basic organization of cities.[202] To Khaldun, *nomadism* (“latent citizenship of a

mobile individual *self*"), an inherited and essential cultural component of the *cumulative*

social heritage of Islamic society and its identity in particular, would thus be considered

a necessary part of being sedimentary and co-substantiates the need for the creation of a

stable, civilized or non-wild state. Moreover, Khaldun implies that the acculturation of a

city is malleable (will rise and fall), depending upon the mode of needs (similar to

Maslow’s hierarchy). The uncivilized occurs when the state shifts from being a

“*flourishing cooperation*” of stakeholders (tribes, dynastic members, social groups) to

one dominated by a single, *decadent* entity (totalitarian, despot) which seeks

monopolization of interests and injustice to counterparts that would otherwise be co-

substantiating to the whole complex.[203] To Khaldun, decadence and singularity of

desires leads to ruin and violent upheaval of civilization, seeking to get back to a

tranquil, albeit naturally ordered state.[204] If an urban structure has a durational state, or a

decadent *proxy* state, it will go into ruin, which is what is occurring currently in war-torn

and environmentally devastated places. Assault upon people's well-being (property, rights, livelihood, identity, spirituality) removes motivation to better or even sustain one's own investment.[205] In unstable states, especially those imposed upon by despotic states where basic refuge and tranquility cannot be sought, *identity* and *value* become less as necessities, but increasingly considered secondary luxuries that can never be fulfilled.[206]

Within the current state, William K. Carroll's *Critical Strategies for Social Research* identifies three fundamental concepts that underlie critical social inquiry and its contribution to emancipation and transformation. First, critical social inquiry must endeavor not only to reveal fundamental problems and phenomenon that underlie them, but also to critically explain and structure knowledge in such a way to be relevant and applicable to the social, or in the case of the research, overall environmental crises. To overcome the crisis, the crisis must first be understood and framed in such a way to empower its participants toward action and change (or repair). The history of the object or phenomenon must be uncovered to reveal the preconditions and active processes that led to its current state. The goal of critical inquiry is to reveal the social mechanisms that promote injustices and crises in the modern world, in this case the current state of the environment as a subordinate goal to more dominant modes of action (i.e. capitalism, economic, technological).

The epistemological approach within critical social theory attempts to reveal dominant or institutionalized ideologies along-side otherwise subordinate ideologies and then proceeds to understand the critical relation in terms of the context in which they are

being incorporated. Dialectic methods, pairing multiple modes together ontologically (relationally), are employed to strategically explore the interconnectedness and interdependences between objects of study, phenomenon, and their relevant, direct social context(s).[207] Here, the social contexts are also viewed as preconditioned structural frameworks of interaction or institutionalized regulatory modes externally created and suppressive in relation to the everyday lived experience and its mode of operation within the environment at a fundamental or primal level. This conditional social contract in many situations prevents individual agents from exercising reflexive power within their lived experiences and disables them from transformative action to crises that become present.

Second, it is important to situate and emplace that knowledge with enabled and critically aware agents most likely to incorporate it for transformative, influential action.[208] To many in the critical social sciences, in order to foster transformation (worldly, socially, or environmental) the critical social inquiry itself must be in the 'marginal' and 'reflexive' position so as to be relevant and accessible to the lived experiences of subordinate position it hopes to emancipate and transform. It must also be dialogic and participatory so as to share vested interests, to promote the active motivation, and know what tools best equip the needed transformative processes. To the current crisis, there can be no separation of the environment from its many participants. It participants however, must be critically and epistemologically engaged for common well-being.

Third, critical social inquiry and dialectical methods cannot be simply content with 'diagnosing social ills,' but that criticality demands that agents must actively participate collectively in creating and working toward transformation in society and in its environmental conditions for action.[209] Critical social inquiry proceeds to reveal and build a knowledge framework in such a way to empower active resistance to distinct dominant modes that prevent agents from engaging crises and to foster ways to overcome them.[210] Critical epistemology is not enough by itself for it also has to lead to application and practice toward solving problems.[211] To Marx, dialectics provides an ontological framework for viewing the multifaceted, problematic nature of social world and a practical strategy of social analysis which sees that world and its constituents as "a construction site for various possible [and better] futures"[212] Again to Marx, in his 1945 *Theses on Feurbach,* "Philosophers have only interpreted the world, in various ways; the point is to change it." This change or betterment has to come with equally dramatic and historic force as that which spurred the crisis.[213]

Modern critical social theory indicates growth from a rich source of reasoning and advocates the explicit goal of providing human-agents with "a systematic critique of their own self-understandings and social practices in order to provide them with the knowledge on the basis of which they can change the way they live [know and act]" toward conscious betterment within their milieus.[214] It generally reveals that no method or judgment is ever neutral or free of values, intentions, or the structural conditions for validity. Its goals leads towards self-consciousness of "*emancipatory interest*" (desires) as the intrinsic impetus guiding all forms of critical social theory (as also guided by

hermeneutics) and all systematic reflection.[215] Significantly, this *emancipatory interest*

is compatible, if not equivocal or even exemplified, within environmental interests. In

this, it advocates how an understanding of the world can be a non-restraining, co-

substantiating part of one's identity and their liberating, creative activities, rather than

accepting of the possibility of an inauthentic life and identity detachment (*estrangement*)

from the world. It builds a collective epistemic framework, based within a total

environmental condition, for authentic action and empowers a rich source for creative

action. However, significantly it also ties social theory to all forms of crises with

political action and is grounded in everyday action and practice across disciplinary

domains (problem solving), as with environmentalism in particular for this research.

Critical theory along with critical education models offer methods and means for

bridging and interconnecting varying knowledge constructs, in particular for this

research, under the extended umbrella of environmental discourse. By creating new

methods wrapped around multiple stances and aimed at creative application, we may

attend to some of the multivariate and problematic features in the ontological structure

and endeavor to restructure or fine-tune our analytical approaches to a greater benefit.

Contrary to these issues, architectural education provides little or no formal

critical theory or critical education toward self-awareness in its basic discourses. Nor

does it engage as an overall common practice or educative stance the applications of

distinct methodologies for cross-disciplinary or socio-communal interaction, other than

disparate individual situations. Ironically, many in the field have indicated that other

points-of-view might actually become 'pollutants' to our intellectual domain. The above

theoretical positions foster means for freeing critical discourse to move toward real problems despite power structures and disconnected value-systems that may oppose them. Beyond its dominating discourse, architecture can be better characterized as a distinctly mediating and reflexive discipline and mode-of-thought (with particular respect to C.S. Peirce's description in his "Architectonic of Knowledge," patterned in Kantian fashion and discussed later in this research). Architecture should both engage within a co-substantiating framework of disciplines as well as create new disciplinary positions from the dialogic interweaving of thought. This also means supplying vitality to our knowledgeable decisions and being reciprocally and critically accountable within or for the environment we co-construct. In addition, this means developing distinct methodological approaches within our epistemological framework to make it inter-relational and an impetus to make it operational and meaning generating.

Hermeneutics as a Fundamental Mode for Mediation

Everything that is is holy.
     - James Agee, *Let us now Praise Famous Men* [216]

We are in a tunnel, at the twilight of dogmatism
and the dawn of real (authentic) dialogues.
          - Paul Ricoeur, *Universal Civilization and National Cultures* [217]

I believe the truth about any subject only comes when all sides of the story
are put together, and all their different meanings make a new one. Each writer
writes the missing parts of the other writer's story. And the whole truth is what I am
after.
          – AliceWalker, *In Search of Our Mother's Garden* [218]

Generally speaking, hermeneutics is the theory and practice of interpretation and is a significant conceptual position taken up within critical social theory.[219] It is discussed as systematic analysis, critical interpretation, or explanation for a particular

reason or purpose. Its roots go back through the ages primarily concerned with the analysis and exegesis of spiritual texts and philosophical ideals. While its primary emphasis has been on the interpretation of texts or discourse, the discussion has been extended to include any culturally manifested artifacts-as-discourse able to be interpreted with the capacity (agency) to carry and convey significant meanings, intentions, biases, desires, and/or values (e.g. poems, public records, personal logs, propaganda, textbooks, literature, songs, instruction manuals, fine art works, visual and graphic arts, dance and performance, film, speeches, products, commercials and advertisements, tools, furniture, architecture, landscape and urban spaces, environmental areas like parks and forests, as well as larger scale urban and regional planning layouts and the minutia of constituent components (dispositives) that make up any cultural artifact). Hermeneutics is discussed as that which denotes the strategy of interpreting cultural artifacts (to be read like text) and enabling those interpretations (in multiple) to be applied to the distinct circumstances contemporary with the active interpreter(s) and their distinct milieu(s). Hermeneutics is the primary philosophical and methodological mode that guides most critical social inquiry and is distinctly directed toward application and practice. It is a key element in understanding and negotiating multiple viewpoints toward the environment (as seen in van Buren's discussion later in the environmental section of this research) and in urban design and community development (as discussed later in our case-studies). However, this section provides a basic overview of the subject in regard to the proposed position and how it leads toward application in urban design and community development.

What is particularly significant to hermeneutics in this regard is that all textual artifacts, written, oral, pictorial, or otherwise, contribute to *shared meanings* (collective and structural, not just interpretation by singular individuals *per se*).[220] All human productions can be thought of as carrying meaning, intention, and value and are thus subject to equivalent criteria and scrutiny as 'dispositive' constructions within their intrinsic social and institutional knowledge-forming conditions (shared epistemes), traditions, and conventions for thought and action. These textual artifacts, as with discourse, always represent cultural knowledge transferred to others and affected by intentional or unintentional uses of power toward specific purposes.[221] In addition, they carry the same capacities (as agency itself) to both convey and contribute to the same dominating structures. A built artifact for instance, is both derived from the knowledge structures and desires of each participating stakeholder, but also collectively constructs the conditions for future work and experiences to be built upon. Here, disciplines as distinct authoritative positions (hegemonic agents with particular stances and unique power positions, like architects) within the process can be seen as 'discourse communities,' as insular acculturated social institutions, wherein they influence assumptions, content, rhetoric, and eventual outcomes for the collective. Within this, it is important to know how one's accountable position within a particular discourse community affects how one operates (understands and acts) and how others are affected and understand those operations in relation to their own. Academic discourse, as a sort of singular, institutionalized discourse community affecting thought and action, generally favors dominate views and often unwittingly or non-critically perpetuate the

same epistemic conditions for knowing and acting, thus delimiting others. To mirror the complexities of environmental concerns is to have an equivalently systemic array of authority and experiences. These dominating views, albeit singular and reductivist in nature, have proceeded without much question and otherwise disadvantage environmental approaches as secondary, unprivileged, and under-intellectualized and thus have prevented the profession of architecture from attending to environmental issues in holistically effective ways.[222]

Within this critical-hermeneutic mode, even 'experience' itself can be seen in the same light as subject to interpretation and to the same epistemic conditions for validity or as Paul Ricouer would refer, *authenticity*. To the anthropologist, Paul Bauschatz, in *The Well and the Tree*, analyses within this mode emphasize not just "events, actions, and constructs," those artifacts or objects *per se*, but those intrinsic formations that "render them understandable and meaningful, or simply significant to the culture that inhabits the space, and that which underlies creative intentions [volitions]."[223] It is important to see 'how' the world is 'experienced, 'how' existence is situated, comprehended, and structured, and 'how' an intrinsic conception of reality can be shaped. The critical epistemic framework sets the initial conditions for thought and action and in-turn informs the analysis itself. In order to analyze architectural productions within a certain reality, as in urban fabrics, one is mandated to also analyze the deeper structures in which artifacts reside and the processes of validation that shaped their conception.[224] In urban structures, there exists a rich palimpsest of structures, meanings, knowledges, and physical artifacts that are revealed through each collective

hermeneutic as well as productive (application) cycle. Acknowledging the retrieval of these elements during the structured cyclic process provides an enriched framework of authenticity in place. Here also is significance on *situatedness* and *reflexivity* as dialogic mediation for consensus and validity of our knowledge framework.[225]

   As an overview, hermeneutics is by its nature initially inter-subjective and transactional.[226] Supporting an overall synthesizing and multi-logical (multi-focal, multi-dimensional, decentralized) approach, Gadamer states that no true universal exists other than the hermeneutic process of all "inter-human experience," in action, bound in the textual.[227] He presents that critical understanding emerges through communicative interaction seeking a "fusion of horizons" between participants, through which an 'authority' and 'applicability' emerge through co-inhabiting community practice in a shared environment.[228] Hermeneutics appropriates knowledge through iterative, interpretive processes that proceed to fine-tune the system,[229] where the inquirer(s) can construct the world and in-turn allows for new unfoldings of knowledge to emerge. Gadamer's view of the hermeneutic processes entails circular reiteration of the three basic components: *interpretation*, *understanding*, and inevitable *application*.[230] In this way, a practical hermeneutic is a viable proposal to serve social purposes as in environmental design processes, in this case, the co-educative and reflexive design processes of a community engaged in productive social action and their relation to an overall, expanding view toward knowledge integration into greater systems of thought and the total environment. Practical phenomenological hermeneutics is primarily concerned with *how* and *why* the world is interpreted coupled with our 'reasons to

produce' (from Gadamer, stemming from the Aristotelian *techne'*). Understanding is interpretive and grounded in action (*in situ, situatedness*) with the addedness of our rationale to organize action.[231] This rationality is further modified through phenomenological approaches, rooted in interpretation. Merleau-Ponty writes, "To say that there exists rationality is to say that perspectives blend, perceptions confirm each other, a meaning emerges. But it should not be set in a realm apart, transposed into absolute Spirit, or into a world in the realist sense"[232] This realization embraces the synthesis of the subject as systemically engaged with and in their particular environments. Knowledge is interactively derived from the environment, thus our constructions are immanently connected. How we intimately *know* the environment is directly related to how we collectively and communally *engage* it.

Stemming from the Frankfurt school, Habermas raised critical hermeneutic and epistemological discourse (*what* and *how* we know) to a new dialogic, socially-oriented level in *Knowledge and Human Interests* (1971) and *Moral consciousness and Communicative Action* (1990) by identifying critical knowledge as based on hermeneutic principles (differentiated from either the natural sciences or the humanities) through its orientation to self-reflection and personal emancipation enabled in and through social interpretations.[233] The theory of communicative action represents a 'special form of dialogue' in which all affected stakeholders (persons, parties, communities) have equal rights and responsibilities to present claims (or desires) and analyze their validity in a context free of social, political, or institutional domination. Hermeneutic, dialogically oriented processes reveal richly textured socio-cultural fabrics and thus produce distinct

amplifications in understanding and the attentive management of complex and diverse issues, while also generating significant narratives and themes for fostering creative and integrative solutions. Dialogical methods are "built on the idea that education is a continuum of dialogs between participants rather than monological" (singular, reductivist approach) that "takes part in the collective enterprise of learning [inquiry]" and of action. Transactions between participants are conducted on the basis of exchange of experience, knowledge, and ideas between informed (and critically aware) individuals on particular (and agreed upon) facets of the problem-at-hand. The meeting process in the event-space of dialog sets stages for relationships to be reflected and then put into action (movement) through communicative processes to evaluate and assign values to unique circumstances in their milieu. Habermas proceeds to connect interactive communication, in which the norms of a community (axiological dimensions: values, meanings, ethics, morals, conventions of action) and the social roles of actors (stakeholders) become important constraints of perceived socio-moral appropriateness of actions.[234] Expressive communication focuses upon the fact that individual actors respectively constitute a public (social realm) for each other, negotiating the truthfulness of communicative actions.[235] Habermas states that a "*decentered understanding of the world* presupposes that relations to the life-world, claims to validity, and basic attitudes have become differentiated." 'De-centering' looks to the perimeter of one's viewpoint and attempts draw in other views reciprocally, thus broadening its relation and the capacity to act in accordance to others. It also draws attention to the structures of embodied ethical or moral interactions as themselves the primary context for anchoring

communal understandings (thought and action) within the shared life-world.[236] The goal

is to view shared versus self-serving modes and how these can play a role to enable

connections and how these renders experience and actions meaningful to specific

domains versus across domains within a total environment.

Moreover, this hermeneutical position is also concerned, as in particular with critical

social theory and urban development case study endeavors, with how things (or systems

of things) are interpreted by multiple agents (as stakeholders) and with larger

communities of inquiry (neighborhoods, disciplines, communities, cultures, etc), acting

and interpreting together within a shared area, region, community, or greater, collective

environment. Hermeneutics is used as a conceptual tool to bridge or fuse multiple

viewpoints (or 'horizons' in respect to Gadamer) along shared or commonly directed

goals or understandings. For this research, it is concerned with bridging multiple

perspectives converging on the environmental subject, primarily in urban settings as

having the highest potential for multiple intersections and increased complexity and thus

a highest need for mediation and rapprochement between active perspectives. It is

interested in discovery through practical social hermeneutics, linking multiple

perspectives together in regard to environmental concerns for urban design and

community development interventions. It hopes to look at the notion of 'action' (linked

to intentions) in the community (and culture) of environmentalism as an informing

epistemic framework in for design interventions at multiple levels and scales.

Since there are many views and ways of knowing and action which compose how we

know and act toward the greater environment, a hermeneutic approach aids to mediate

between the views toward a collective view or at least identify where they cross paths.

This could lead toward framing the common needs as necessary to shared-views. The

dialogic allows for knowledge of the current state and its roots in past still viable as well

as proposition for its future, to emerge. Its communicative interchange lets patterns and

issues emerge and formulate a thesis or connective authority. This presents a model for

larger domain case-studies (as in regional, urban, or community design, as well as

environmental design and conservation discussed in the operational sections of this

research) of how certain cultural systems can be understood. In this case, we are looking

at the very culture of architecture and its relation to socio-environmental discourses that

have to be reevaluated at an epistemic level in order to proceed into new domains of

thought and action. [237]

Chapter II Conclusions

*Therefore, the prevailing and popular contemporary desire to circumscribe the
epistemological foundations of our discipline concerns primarily the appropriateness of
language to modulate our actions as architects, but can never pretend to "reduce" or
"control" its meaning. The issue is to name the kind of discourse that may help us better
articulate the place which our design of the built environment may play in the
technological society at the end of the millennium.*
      - Alberto Pérez-Gómez, *"Hermeneutics as Architectural Discourse"* [238]

Critical Social Theory, primarily rooted in Kantian discourse and rooted in the

Frankfurt School, is now a general philosophy in the humanities and social sciences

describing current theoretical developments and associated methodologies across

numerous fields in addressing real world problems primarily at the social level. Each

approach has in common the orientation toward social and epistemic *inquiry* and the

critique of hegemonic dominations *vis-a-vis* emancipatory interests fused with socio-

cultural interpretation, analysis, and explanation leading toward subsequent social application and/or epistemological changes. Identifying the crisis at its multiple (primarily epistemic) levels can lead to transforming problematic relations (disparities) at the same fundamental levels. The above theoretical positions discussed in both critical social and post-structuralist theory are also aligned within their formal processes with the subject of hermeneutics, in particular with *application* and *shared investment* in communally oriented decision-making, accountability of knowledge and affect, and validity between to varying sets of axioms (values, meanings, norms, desires) playing their roles in the development of society. Upon an understanding of the problematic or crisis, rooted in knowledge and discourse, the primary hermeneutic concern is integrating and synthesizing knowledge bases from which to generate multi-dimensional and -logical solutions to complex real-world issues, in lieu of uni-dimensional, monological, or strictly linear (reductivist) approaches. Multi-logical and integrating processes attempt to foster a multifaceted 'fit' within the greater complex domain of knowledge, which in-turn can thus co-enable that greater domain (the environment in this case) to appropriate its multidimensional, architectonic components. Importantly, coupled with this is idea that critical knowledge must inevitably lead toward transformative emancipation of the individual, critically-aware self. If it falls short of this endeavor, the idea becomes essentially fruitless and without embodied meaning. Critical consciousness moves from innate knowledge to powerful use and thus a critical relationship to the world. More recently, critical theory is emerging as the dominant

mode of inquiry being used to address *environmental* concerns as a social and epistemic issue rooted in education and manifested in practice (thought-in-action).

The above components of critical social theory embody the very nature of what architecture, as socio-environmental practice, are supposed to uphold. When paired with everyday architectural or greater environmental concerns, the ideals are 'critical' because they also refer to a certain prudence and 'carefulness' of our thinking, knowing, and acting about the environment as the conditional, spatial framework and epistemic reference.[239] In lieu of thinking of the environment as an abstract concept, as simply a separated 'nature' or 'surrounding world,' that is indifferent from our knowing and experience (being), we can consciously refocus our endeavors toward how a more essentially connected, vital, and 'useful' (with respect to Wittgenstein)[240] relation with the environment. We must also think of the environment beyond the idea that it is simply a 'standing reserve,' of knowledge or material funds, as Heidegger has pointed out, to an idea that the environment is also an shared investment. What we place in the environment is also a constituent part, for better or worse (we might prefer better and we might also think hard and critically of what better can be in an ideal sense of the word, beyond ourselves and toward the greater environmental structure). We can think of the environment as not just something worth dominating, conquering, or changing to meet a singular need (as we unwittingly change the world which may also substantiate us), but one in which we first negotiate and understand the multiplicities at stake which form it. We must endeavor to impart how our knowing- (epistemological) and being-in-the-world (Heiddeger's Dasein) are critically and phenomenologically interconnected with

the environment. We also critically think beyond just a simple relationship with the

other and other subject-components within the environment, but also how the complex

nature of the many multivariate relationships can be embraced as a key part of our being.

The more the *Critical Environmental* position becomes warranted in this regard, the less

one can make separations between the subject and the object, between knowing and its

referent, and between the agent and the environment (world, *life-place*).

The *Critical Environmentalist* position that is being developed, as a conditional

framework rooted in the above theoretical positions (primarily critical social theory),

guides creative endeavors for architectural thought and practice, supports retaining the

original and richly engorged epistemic socio-structural framework, a rich palimpsest of

culture, beliefs, memories, and even interpersonal feelings. An understanding of the

acknowledged knowing-self (as active agent) is in essence a key part in developing a

critical framework for a grander interconnected and co-affective schema. In this, each of

the above positions are also extended to being further informed through another key

component, that of hermeneutic-phenomenological practice,[241] rooted in direct

participatory and dialogic engagement with society's divergent horizons (each a agent

stakeholder with a vested interest and something to gain or lose) to address real issues

(shared by all). Since it seeks to develop thought from an enriched palette and thick-

descriptive approaches (with respect to Ryle and Geertz), it endeavors to also address the

complicated nature of environmental concerns as they particularly relate to the human

condition at multiple levels. Analogous to an archeological inquiry, the practice

endeavors to reveal the thick underlying layers that form the greater socio-environment

that can also best inform an equivocal design process. What is promoted is an inclusive

philosophical framework where criticality and analysis is prominent to inquiry and

practice, where conflict is acknowledged and negotiated, and where dialogical synthesis

and reciprocity, a syncretistic mode, is intrinsic.

The goal is to develop an architectural discourse that consciously fosters formal

inquiry and critical thinking, but also interconnects the essential reasoning for creative

endeavors and architectural productions with(in) a greater body of knowledge

(*episteme'*), its socio-cultural frameworks, and the greater environment *life-place*. The

development of architecture as an active participant within this greater domain also has

to be equally and inclusively oriented to the social condition with which it plays a role.

It simple cannot remain an entity hegemonic (overriding) or idealistically separated,

resolved into modernistic, reductivist approaches that inevitably fall short of the

complexities of socio-human condition and its connective place within the greater

domain. With so many schools in architecture talking of 'knowledge-based design' (or

even 'evidence-based design', which inevitably forms a part of our knowledge base and

therefore also epistemological), epistemic studies may help answer questions, primarily

how varying components are (in)formed, inter-connected, and validated as a system. It

can lead to an understanding that what we produce, both in discourse and physical

cultural artifacts that play the same role, forms a body of knowledge and directs how it is

validated or made legitimate as a way of knowing and acting for future endeavors. In

order to break or enhance a cycle, one has to first critically acknowledge the basic

features. In this, epistemic studies along these lines may also help in providing a guiding

framework for how to manage or negotiate 'how' various modes of architectural thought are engaged in regards to greater environmental concerns. We have to find those points of connection that can be best exploited to better address the issues and hand while also building great co-substantiating vitality to our own knowledge-base. In the next section, these positions are taken up further from more focused environmental stances and a lead toward architectural and environmental design endeavors along these lines. The following chapter will review and compile the epistemological positions in regard to environmental discourse and the proposed *Critical Environmentalist* position.

CHAPTER III

THE ENVIRONMENT –

CATALYTIC SPACE FOR AN EMERGENT *EPISTEME*:

…that nature is being murdered by 'anti-nature' – by abstraction, by signs and images,
by discourse, as also by labor and its products. Along with God, nature is dying.
Humanity is killing them both – and perhaps committing suicide into the bargain.
      - Henri Lefebvre, *The Production of Space* [242]

Extending the introduction to criticality and social theory in the previous chapter, this research returns to the definition of terms and now revolves around the descriptive theoretical fabric forming our knowledge of the *environment* itself by putting forth multiple questions and concepts. Epistemologically, this research asks '*what is* the critical environment and *what* are the *critical* components for its knowledge and understanding across disciplinary domains or modes-of-thought? In this, *how* are environmental knowledge(s) framed or interpretively filtered across multiple domains, *how* are they organized (ontologically 'placed' as in systemic or as an organism), *how* are these modes put into action (thought-in-action) and made manifest in practices, and how are they validated or made legitimate in regard to the total environment. More specifically to this research, how are these conceptual cross-currents in regard to the environment vital to architectural production alike? '*What*' is critical and '*how*' is that knowledge made manifest in regards to architectural production as a essential part of the environment at large.

Although identified within this research as the vital and significant, spatial conditions for thought and interaction, the '*environment*' is generally defined in its English use as simply meaning the "surrounding world," a conceptually separate realm

from our direct experiences and knowing. More significantly for this research we can look at the Germanic conception of the *Umwelt,* as described by Jakob von Uexküll and Thomas A. Sebeok, which extends this description to mean the "biological [or environmental] foundations that lie at the very epicenter of the study of both communication and signification [*Bedeutung*, meaning] in the human and non-human animal."[243]   The term is also translated as "subjective universe," where Uexküll theorized that organisms have broadly diverse *Umwelts* (also world-views), even though they share and collectively inhabit the same environs.[244] The environment (*Umwelt*) is the catalyzing agent (the air we all breathe, the space we all dynamically share), an ecumenical and meaning-generating spatial condition.[245] We can think beyond the idea of generic, neutral and separate space to an extended to a notion where concepts and knowing cannot be separated from our shared, inhabiting, and critical *life-place*. As an overarching catalyst, the environment as a totality is 'already-present' as the critical context, conditional filtering, or coding device for all knowledge and thus innovations occur. Its discursive nature, once put in perspective context or modal conditions, can now be seen as a rich palette for creative endeavors. This notion extends our understanding of the environment as densely charged with endless folds and stratas of meaning (both *a priori* and emergent) and charged with potentiality for problems and solutions addressed within the same substance.

The French variation in social theory generalizes the 'environment' within the conceptual range of the *Milieu*, the social and cultural surroundings or landscape [setting or field] of a particular domain.[246] The social environment or context is an assemblage

of related positions and roles defined by the culture in which one is immersed, lives in or is educated. The social fabric, the people and institutions with whom one interacts through social praxis or habits (actualization, application and performance of knowledge) provides a useable epistemological framework from which one acts. For example, there are artistic environments (artists in a given area), educational and professional environments (members of a university or of a particular disciplinary domain), political environments (members of a political party), even environmental ones, etcetera, acting toward communally understood agendas. Environmental space thus can be seen as the interactive, epistemological space of social practice.

To Lefebvre, in *The Production of Space* (1991)*,* "acquired knowledge as structurally connected to the spatial sphere is self-evident, but scientifically never conceptualized along with the collective, social subject," the creators of a particular language within a certain community of participants, especially those involved in a productive social activity. Here he identifies a "yawning gap that separates this linguistic mental space from that of social space," wherein language becomes practice and meaning, thus validity, is gained through communal use.[247] Intrinsically we are socialized to think of such notions as 'practice,' meaning' and 'validity,' which places great importance on communal understanding and ethical accountability of the system where these terms and understandings reside. The individual self and its identity within the social realm cannot be removed from productive action, the social construction of the world to mutual benefit. To Lefebvre, as with Foucault, knowledge is also the space in which the subject may take up a position and speak of the objects with which he deals in

his discourse.[248] Knowledge is gained spatially through interactive translation and interchange. Space, and thus knowledge of it, intrinsically involves multiple 'others.' For abstract space to acquire real meaning and significance, the corporeal agent interchanges knowledge between the singular, monadic individual to the multiple as it becomes social and is transferred vicariously through the textual. We exchange a conceptual notion of an abstract, source 'space' for the acquisition of and resource-fund for knowledge to the '*life-place*' filled with hermeneutic social and communal interaction (language-interpretation driven).

In either case, the definition of the environment is extended beyond the general use of the word that implies a separate (dualistic) and possibly generic 'surrounding state' outside of the immediate human condition and thus from its knowledge. This extension represents the shift (a 'spatial-turn') from the Cartesian notion (Descartes) that thoughts are separated from an outer system by a real, imaginary, or otherwise hypothetical boundary to a model where the binaries are systemically intertwined and co-enabling.[249] Philosophically, if environmental concerns are to be critically part of our episteme, the dualistic ontology, our relationship *to* the world, must be ontologically porous to or immanently intrinsic *with* the world. Indicative of critical thought, an ecological insight for environmental and architectural education is that the knower cannot be separated from the known for the process of knowing requires totality (non-dualistic epistemology, like Hegel's subject-knowing/object duality). They co-constitute each other and influence the others' knowledge, and identity, and thus the meaning of the experience of being (in place). Thought (knowledge) is structurally coupled (or co-

substantiating) with its environment. This notion 'places' the knower(s) in a participatory (phenomenological/ hermeneutic-constructivist), ecological and mutually adaptive relationship with the known (or knowable)[250] Ecological, as with environmental, learning refers to the web of ontological relationships in which an organism is embedded. It points at the 'nested' nature of all living organisms, beyond a simplistic or reductivist dualistic, separated misunderstanding of the environment. [251]

Environmentalism, as an ideology for practice, extends this to a philosophy of living in conjunction with others in harmony with and even *as* the global ecosystem. To this perspective, we *are* nature as well, not something independent. It directs concerns and actions toward the environment as part of our total living condition. It also promotes *caring* whole-heartedly for the environment at large as one *cares* for themselves, inclusive of others: individual identities, ecosystems, socio-cultural values, and civic concerns. Each of these is considered co-enabling to our own being. From a philosophical stance, the environment is an intrinsic part of the intellectual agent, part of the reason for being.[252] It is inclusive of both the critically embodied self as an intentional, interacting, and intellectual agent and the space of 'emplacement.' To many, it is also a critical part of belief systems and religious practices.[253] The 'environment' for this research is thus identified as the total environment, the greater, shared domain or contextual conditions for the possibility of thought, meaning, and thus knowledge(s) to occur. It brings together thought, beliefs, and actions with the environment as a spatial totality, a socially interactive and interdependent epistemic condition. The environment itself must be viewed transcendentally as the synthesizing, ecumenical catalyst (with

respect to Kant) between modes-of-thought within a total framework for reconciling differences into common concerns and collective solutions.[254]

This section will focus on a series of environmental perspectives and their proposed mechanisms to address environmental concerns at its various levels of engagement. While there are many approaches 'out there,' far too many and disparate to cover in a single research project, this exploration has picked out some that are of particular interest for the proposed *Critical Environmentalist* framework. It is important to view this research holistically within a subject matter that is diverse, multifaceted, and discursive – that is, as forming a systemic whole, albeit with rough edges and connections, including any conjectures, tangentials, or contradictions that may be present between facets or views. In the first part of this section, the goal is to extend the relations found in critical social theory and its praxis with an emphasis on epistemological concerns by placing this research within current environmental discourse and some key fundamental philosophical positions. The research will also attempt to reveal a recent history of environmental discourse, its overall discursive structure, and its relation to architecture and its particular turn toward what has been fundamental to architectural education referred to as 'environmental design.' Within this distinct, environmentally-oriented design mode was formed the initial building blocks and a significant guiding framework that can be re-infused with current modes of architectural thought and practice. Second, this section will highlight recent discourse in environmental philosophy and ethics to support and build upon the conceptual structure presented. Lastly, this section of the research will highlight some current positions in

environmental discourse and relate it to discussions of sustainability as critical to architectural endeavors. Again as previously outlined, from a cross-pollination of positions, the goal here is to bring to the table some common patterns or shared conceptual threads upon which we can reveal basic guiding principles that can be structurally placed together and connected across these varying positions in such a way to form an epistemological framework for *Critical Environmentalism.*

A Recent Background for Environmental Discourse and Architectural Concerns

Necdet Teymur in his 1982 *Environmental Discourse – A Critical Analysis of 'Environmentalism,'* identifies key components within the discursive nature of environmental discourse. If we were to identify all of the disparate facets of an array of critical and ever-changing environmental factors informing the epistemological framework for architectural discourse[255], the question arises as Teymur asked, "What is it that unites [this] immense variety of discourse that can be found in environmental discourse,"[256] and to us *how* are we to critically assemble this discourse, albeit in a significantly viable and meaningful way to current modes of thought and practice. His view is reminiscent of Foucault's view of the discursive nature of knowledge when in discourse, or even dispositive, analysis reveals the corresponding state of things and knowledge. We will revisit Teymur's questions and categorical analysis, but more in light of current issues and from our particular take within the proposed critical framework model.

Through a discourse analysis of multiple references across disciplines primarily playing a role in architectural or urban design, Teymur basically identifies the shear

multiplicative and discursive nature of the environmental subject matter. Like Foucault,

he regards the basic conditions for discourse as discursive order itself and the 'muddled

multiplicities' between varying views.[257] In his introduction, he states that his work

attempts to question the "whole terrain" of the discourse, then to proceed to locate the

study with its "proper context."[258] However, rather than discussing environmental issues

per se or addressing specifics with possible solutions or predicated outcomes, Teymur is

more concerned initially with the fragmented nature of varying discourses and subject

matter about it, its varying views, theories, concepts, presentations, manifestations.

While he ardently maintains that no a singular answer to the issue exists, he does

however allude to possible directions where environmental issues at a fundamental

(primarily epistemological) level of understanding can be addressed. To many in the

environmental and eco-sciences, the environment it has to be viewed as total condition,

as a unity, albeit assembled of multiple components and substructures. If it remains

fragmented and dis-concordant in its understanding, terms and conditions cannot

effectively address multifaceted problems. If one can say that environmental problems

must be addressed collectively and critically from multiple angles, then analogous to the

discourse the same problems which are at the heart of the discursive nature of its subject

matter may be at the root of the problem as well as the fundamental positions for

establishing a unity.

Teymur attempts to show that the discursive components that compose

environmental discourse and the means by which the varying material is organized and

made manifest are "not indigenous to the discourse" nor to the disciplines that utilize it,

such in architecture and planning.[259] The discourses instead come from a immense array of sources, each of which convey differing desires, political positions, and dominant ideologies that 'charge' the discourse into its multiple arenas and away from the intrinsic issues at hand. In addition, the positions that are for the most part 'borrowed' in piecemeal from multiple others are not fully integrated nor developed to the best account within the host discipline. The dominant stances are reiterated through multiple professions; however these positions override and are often at odds with the very nature of those disciplines and their relation to the environment itself. When external issues are interwoven with unresolved internal issues, there is a cascading and fragmenting effect. The issues goes by without a means to understand or revise until passing a critical state requiring radical and often singularly driven counter-measures. The question arises as to how this discourse is assimilated and in what ways are they related or assembled together within varying fields to build understandings and means toward action.

On one hand, when a discipline borrows ideas from other disciplines or viewpoints, it can more align to another's more specialized position and thus address that issue at more than one level. However, this compounds in the creation of sub-fields or specialized positions across the disciplinary domains. It is often hard to tell where one discipline ends and another begins, with no distinctively connective framework or measure upon which to tie the parts together. Moreover, the distinct identity of a disciplinary position can be dissolved in an unmanageable array of confusion and cacophony of positions with no distinct direction. Engaging in multiple directions with no connective goal at once may never hit its target nor even establish one. On the other

hand, while each specialized position may be able to address the particulars of their problem with more detail and emphasis, other discourses are often deemphasized or overlooked in the process. As is discussed in critical social theory and seen predominantly in institutionalized education, it is more often the case that a dominant and otherwise singular or reductivist view (the straightest path of least resistance) emerges and overrides a collective, decentralized view. As pointed out by Gadamer and paraphrased here, often a simple or even false path (and reinforced as the only path) is taken simply because of the lack of a better solution being offered. It seems that viewing the environment from a total point of view and seeing where these ideological positions cross paths and co-substantiate each other make for a better overall approach, matching the complexities of environmental problems. However, this is difficult to navigate and is the thrust of the problem. While it can also be argued that the discursive nature of the discourse is reflective of the equally discursive nature of the environment itself, the subject-matter is generally incongruent and over idealized as indifferent from the environment, again rooted in the dualistic "man-environment", "society- environment" problem. It becomes a question then of how to manage the multiplicities we face and how to prioritize our endeavors to co-beneficial processes.

To Teymur in *Environmental Discourse*, because of the discursive and multiplicative nature the questions about the environment to ask are worth addressing (again and again and from multiple vantage points as needed) despite their *obviousness*. Environmentalism as both a subject and conceptual object has been known for quite some time, yet there are a multitude of differing pints of views and approaches and yet

the subject as a whole is still "obscured under a fog". To him, "*There was an apparent paradox in the presumed obviousness of the object and the multiplicity in its conceptions.*"[260] Yet in today's media and intellectual arenas, like the weather, everyone is talking about it. To Teymur, we are interested in a series of seemingly unanswerable, but obvious questions. Since 'it' is one thing to one person and yet something else to another, who really knows what 'this' is that we are really communally agreeing to and conversing about in differing ways, much less whether we can come to an agreement as how these differing views are related and to what is considered their qualities (good or bad, value judgments)? Between public awareness and privacy of concerns, this also brings into question how each knower of the environment interprets it, whether as investment or resource-fund, friend or foe? Which views or problems dominate or regulate others and which ones are actually most prevalent to current overall concerns? There are multiple, disconnected terms of engagement, not generally agreed upon and often truncated to reductivist and singular views, therefore disparate to other views and to greater complexities. Hence as a critical inquiry and socio-cultural emphasis, there is a need to negotiate concepts and terms across disciplines and point-of-view as a basic underlying structure, equivalent to the complicated nature of the environment. It seems that if we could tie it all together along connective features and concepts, points of reciprocity within an intrinsically discursive framework, we could begin to critically negotiate an interconnective and interdependent framework and thus a corresponding response. [261]

Within this dense array of subject matter, to Teymur it becomes a question (as does this research) of what basis (or foothold) does one establishes a theoretical system, approach, or method to the problems-at-hand. With a particular discipline it also becomes a question of the *nature* of the object of study and how it operates distinctly, relationally, or systematically.[262] Within each discipline, and particularly in architectural endeavors, it has many views, operative components, and methods within it, each which particular methods and outcomes on the subject. To architectural or urban design studies in regard to environment concerns, this nature of its own discourse can be considered from many points of view and from many differing degrees depending on the contextual conditions and where is crosses paths with other disciplines, be it social, cultural, theological, geographical ecological, etc, etc. Its active approaches vary respectively from behavioral and socio-cultural studies, symbology, and place studies to green building practices, sustainability, etc... Teymur brings to light that as his survey of (primarily architectural related) environmental discourse proceeded, *a priori* systems of classification or theoretical formations emerged. Parallel to his work was the added insight though his research into sociological, psychological, epistemological, scientific methods, art theory, and philosophical inquiry, which helped to build the object of study and the structure of the study *from* the multiple viewpoints in lieu of a preconceived, singular stance. So even though the issues were not universal, they could be analyzed from particular points-of-view in order to establish by which ground they were being measured.[263]

Teymur analyzes three basic attributes to get at an understanding the discursive nature of environmental discourse and to build toward a possible unity. The first concerns the '*discursive objects*' of environmental discourse themselves, centered on the means of formation as essential to the manifestations. Herein is a basic overview of how the environment has been represented in language, graphics, arts, design, and other forms of 'social imagery' and how these plays a role in our collective understanding.[264] The second feature of Teymur's approach concerns itself with the '*structure*' of the discourse, focusing on the problematic conditional relation of "man - environment" and "society – environment" established in varying fields.[265] In this, an intrinsically human /counter environmental created view of the Cartesian dualist dominated discourse may unwittingly and play a role in its own countermeasures and not truly representational of the actual complexities at hand.   While all discourses in the long run can be considered in essence environmental, the structural components which make up its subject-matter may indeed be counter to its well-being or ambivalent to its concerns. He points out that this relation, a fundamentally dualist position, is generally used unproblematically and without question in many fields. Teymur thus directs our attention to the dominating ideological conditions under which these polar positions are bracketed together and how this inevitably plays a role in how we address the issues. The third position that Teymur takes is directed toward the working '*mechanisms*' of environmental discourses, (as also manifested with counter-environmental ideologies), by the entirety of devices and components which make up the functionality of the environmental framework.[266]

Within this overall framework, Teymur uses three fundamental conceptual positions to analyze and interconnect environmental discourse: the *epistemological, ideological,* and *problematic* nature of the subject. These components will also later be incorporated as conceptual positions upon which to establish a basis for the proposed framework of this research. Since negotiating terms and concepts are essentially wrapped up in epistemic issues and the particular object of discourse analysis, *how* we know *what* we know and *how* we produce and validate it, Teymur begins within a fundamental understanding of the epistemic referential "environment" as it is defined and perpetuated. It seems significant to tackle problems where they are generated at epistemological and discursive levels upon which to be guided by a set of principles or concepts which would enable it to better correspond with the objective.

As a fundamental problem, Teymur sees present in environmental discourse a domination of the empiricist view in the field of study and its inherent philosophical trap associated with the fundamental *epistemology-ontology* confusion between the 'real object' and the 'theoretical object.' Referring to Roy Bhaskar (a significant proponent of *Critical Realism*), Teymur states that "there is also an empiricist confusion that arises out of an attempt to answer ontological questions at an epistemological level and epistemological questions at an ontological level," which results in a displacement of the subject and the question that are being asked. While they may in the long-run be the same substantively, his approach tries to differentiate sensory and empirical experiences from the cognitive processes of knowing, which is to him, are based on the production and movement of concepts and theories, the scientific knowledge of the real. Ontology

is the general study of the relationships of *being*, independent of objects themselves (Kant's *Ding an Sich*).[267] Teymur refers to Kant who discusses ontology as basically tautological wherein "ontological argument is based on the concept of necessary existence, i.e., an existence that it would be impossible to deny." To Hegel, who proposed a 'unity' of ontology (dialectics) only to come back to the concept of 'Idea' (in and of itself). [268] To Teymur, this is ontology epistemology relation is better resolved in the phenomenological analysis of Husserl, who saw it as "the self-revelation of the meaning of experience" or as phenomenologically directed understanding of what fulfills the intentionality,"[269] which bring the knowing-subject in direct epistemological and ontological relation to the object of knowledge (referent) and how it is experienced as part of knowing and being. In addition, this also brings to light that knowing when manifested in creative action, phenomenologically also forms the environment that we know, and thus interlinked.

Teymur basically identifies the significant epistemological association with environmental knowledge by pointing out that the process of knowledge involves the dualistic relation of the 'knowing-subject' (agent) and the 'known-object' (environment - referent), as described by him as an "interaction between 'Man' ('Humans', as with 'Society') and 'Environment.'" [270] Knowledge is viewed here as relative to 'individual subjects' therefore the "knowledge of the real becomes a subjective matter." The discursive epistemological structure of the environmental subject matter (as representing the 'object' of study) leads to an acknowledgement of the multifaceted nature of epistemological (as problematic[271]) views and to questions regarding whether the

dominant views are disparate or represent the true nature of the environment (as the real object). Teymur proceeds to ask, "Is there any mechanism in the environmental discourse to specify the difference [or even commonality or shared concepts] between the *knowledge* of an object and the *real object*?"[272] In addition, what are the objects represented to particular views, across domains, or relative to each other? His analysis is a purely epistemological position as it proposes to analyze the discourse itself and to simply identify the discursive structure of it as problematic, but not to necessary make value judgments. Like in our earlier model of epistemology, discourse analysis, and critical theory, it is only by critically identifying the problem (or crisis) that we can seek to transform it. To this research, Teymur's work is significant by supplying this basic issue, but also by indicating the epistemological component, can it become part of the essentials for negotiating a framework of interconnectedness.

The second issue Teymur bring to the surface is the *ideological* aspects of environmental discourse. He points out that this aspect is fundamental, taken as common terminology, to the "theories of social formation and political practice" and is often paired in the Marxist sense with 'false consciousness,' something dominant worth fighting against or a new state worth striving for in pursuit of critical self-consciousness. In the basic social and psychological theoretical positions, ideology is related with the individual subject by way of "mental states, social relations, or to social structure." In addition, it is "also conceived as a misrepresentation of the real, or as an effect of the [constructive] nature of the human mind." What he points out in this is the generally truncated relation (a state of disparity) that occurs between the knowing-subject and the

known-object by means of disconnected, "deliberate and *external* forces" such as class-caste relations, institutionalized knowledge, or overly constructed theoretical positions intended or conspired to overt or deny other possibilities.[273] This also sees ideology(s), particularly dominating and regulating ones, as a representing a possible "false conception," imported or "imposed from *outside*" or as an internal one as a "mechanism of self-deception," both autonomous results of social formations be it institutions, classes or social groups.

To Teymur then, ideology can be understood as (referring and quoting L. Althusser) "*the* [conceptual] *representation of the imaginary relationship of individuals* [agents] *to their real conditions of existence*.'" To Teymur, this implies that agents do not represent "their real conditions for experience, their real world, but '*their* [constructed] *relation to those conditions of existence which is represented to them there*'" that govern and regulate their existence and thus active practices.[274] While Teymur analyzes the structures and mechanisms which bring about the construction of ideologies, he significantly brings to light in this discussion that dominant views are brought about, reproduced, and reinforced by means of social formations. Knowledge and understanding and the varying positions each takes *ideologically* are socially constructed and therefore is at the heart of environmental discourse, thought, and practice. Understanding that conceptual representations and (multiple) dominant structural views that occur and that they are inevitably used to regulate meaning, experience, theory, and practice, we can then see how to strategically incorporated this theoretical position to get at the essential components of environmental discourse.

Third, Teymur discusses the notion that environmental discourse cannot reside entirely in an "epistemological or theoretical void," but that they are also products of their theoretical conditions of experience – their *problematic*."[275] Expressed as that which defines a field, system, or a theme, a problematic to Teymur is a "'determinate articulated system of concepts, instruments, and modes of theoretical labour' whose unity is 'that of a complex structured whole which is irreducible neither to its elements nor to some essence of which the parts are just so many different expressions."[276] The problematic to Teymur on one hand is the mere fact of the discursive nature between the subject matter itself, represented in its varying discourses. However, this notion also leads to the idea that theories themselves are not solutions unless engaged and able to be applied to distinct and identifiable problems. Because nothing happens singularity or in a vacuum, the environment is always in a state of transformative and revisionary action in direct relation to particulars at multiple levels. This notion mirrors Fays' Theory of Crisis, the grounding theory of in the realization the problematic, but also seems to acknowledge the post -structuralist analysis of the discursive state of the epistemological structure and it associated discourses. It places importance on knowing the structure of things before attempting to critique things in themselves. Discourse analysis signifies the state of knowing the world or environment in this case, as it is recorded and transmitted in the social system.

Teymur also states that most problematics are often simply "ill-posed." Though they can be seen in multiple ways, as in from 'ideological, moralist, [axiological, ontological, theological], technical, and scientific' (paraphrased from source) etc, each

with their own consistency, but each "cannot fully be determined solely with reference to the internal consistency, or structure of concepts." Critically, an internal point-of-view cannot be the sole criteria nor accountable for its own status and validity. An internal validation without reference to external source can reinforce a truncated version and inevitable provides a "false answer" or at least one that is *disparate* to the real problem. Its internal concepts cannot be stand-alone by simply their own systems of validity or validation, but inevitably draw out "within the thought the objective internal reference system of its particular themes."[277] The nature of particular problematics and ideas with revolve about them inevitably also bring in the references and conditions for their conception, but also draw in the necessity that questions be answered, problems referenced. As similarly notion discussed by such philosophers as Deleuze, problems are engorged with the potential for creativity and innovation.[278] Problems make answers possible and provide a conditional field for *how* they may be answered and validated.

To Teymur, the ideological and problematic must be "understood by their social effects" as well. [279] As a system for formulating problems and governing the possibilities and natures for solutions, one must also understand the ideological correspondence to real and actual problems. Here he also discusses the basic similarities and differences between a '*paradigm*' in the 'socially-accepted' sense or 'world-view' and '*problematic*' as correspondence of the *ideological* in the epistemological sense.[280] In may be possible in architectural endeavors to see these ideas as working together between social formation of knowledge and the physical reproduction of models or traditional approaches (forming an epistemology or way of socially knowing and

experiencing the world) as reiterated though built-form, discourse, and education. In addition, we can see a direct relation between this social formation and social practice and corresponding effect on real environmental problems manifesting at multiple levels (i.e. social, cultural, ecological, biological, technological, etc). By addressing the prevalent ideological/epistemological positions, terms, and concepts within particular cultural or social formations, we can attempt to also check correspondence with actual problems. To see them at multiple levels simultaneously, the system can also begin to check between each other from varying stake-holder positions. To Teymur, "What is absolutely essential is to identify the conceptual structure, i.e the problematic, of it in order to be able to transform it." [281] Teymur's analysis lays some ground for possible avenues to do just this. Reiterating our discussion on critical social theory, this 'problematic' is also what we know as the 'crisis,' that once identified one can play a critical role in emancipatory and transformative action, reciprocally both with the embodied, knowing agent and the environmental problematic of which one is engaged.

More recently, in *Prefixing Architecture: Re-viewing Re: Architecture: Themes and Variations* (2002), *a*s a critique of how architecture is usually prescribed in both education and practice, Teymur states that "Architecture is as much a problem as it is a solution." [282] Teymur describes architectural models in history as often ironically being "presented through aesthetic spectacle, hegemonic cultural frames, or quasi-religious paradigm, is perceived at best as the focus of alien experience," while ordinary, everyday live-in built world is seen as not generally architectural and therefore not of high art or intelligence.[283] Furthermore, he states that the practice of 'problem solving'

cannot be fully realized until the (or *that*) problem or crisis has been identified and defined. [284] Upon that realization, we find that problems are in actuality too complex for normal practices and criticality of our own state can lead us to an understanding that to our approaches to addressing them can in inevitably add to the problem and make matters worse, which is why we collaborate with other authorities and borrow knowledges from others. In this, we can also understand that architectural endeavors represent both a form of knowledge (epistemologically) and the constructed environment as a condition of experience and thus knowing. It is both bound by cultural traditions and institutionalized knowledge as well as culture- and knowledge- forming. It may represent multiple co-existent states of the *problematic*, therefore added criticality (with multiple check-points) is an imperative.

As an interpretive overview and in relation to the proposed framework, Teymur basically identifies the significant *epistemological* association with environmental knowledge through the process of knowledge production involving a basic dualistic relation of the 'knowing-subject' (an agent) and the 'known-object' (the environment as referent). He also identifies that knowledge and practices are defined within social structures that regulate them, a distinct relation to critical social theory. Herein environmental knowledge and various ideological positions (manifested in discourse) are formed communally and/or institutionally within their social milieus. How we understand the environment is also conditioned by the distinct *problematic* that makes such knowledge possible and *operational*. The problematic is systemic and ontologically tied directly to a multifaceted and discursive field of concerns.[285]

In addition to Teymur's categorical points-of-view, the discussion must also be extended to another catalytic mode, as in *axiologically.* Significant to this research, *axiology* is generally the study of values, meanings, or qualities, or sets of rules that guide conventions, norms and accepted practices, or modes of thought-in-action. From an *axiological* stance, terms and concepts can get mixed in such ways that the singular and the selfish becomes a dominant mode over the multiplicative field, in lieu of an ethic which by nature negotiates between agencies and 'others.' When there are multiple views and terms, meanings and values become confused between disciplines and the possibility for holistic problem-solving reduced. This concept is extended epistemologically in many discussions to thought-in-place or thought in relation to environment, context, situation, locale, or geographical location. In addition, this problematic conditional field includes a direct relation to the actual (real) environmental referent, albeit in it multiple aspect or objects of study that particular disciplines or point-of-views attempt to address. In this, an intrinsic operational mode for environmental knowledge is articulated within the discourse, which has a direct cause and effect relationship between varying agencies acting on the real environmental at multiple scales.

For Teymur in *Environmental Discourse*, within the "immense variety" of environmental discourse, within its many "questions, notions, terms, and problems," there "somehow exists as a unity."[286] The question remains as to *how* that 'unity' can be formed in a way as to draw the discursivity together into collective understandings, meanings, values, and continual usability with our current overall environmental

dilemmas. In addition, how do we unite this discourse in an effective and meaningful

ways to current architectural knowledge and practice in such a way that we also do not

lose our own identity and knowledge-base? From a *panopticon*[287] of the subject matter,

we can cross-reference and build relationships of varying parts via an interconnective set

of conceptual components across environmental discourses. We can look critically

within our particular disciplinary vantage points to identify dominant structures or

connective themes (like Teymur) which may either prevent us from effectively

addressing environmental issues or provide the conceptual tools to do so in more

productive ways. Like environmental discourse, architecture must be able to address the

issues in an equivalent and co-effective manners. The tools of analysis that begin to see

the discursive nature of the subject matter may very well be the same devices we can

incorporate to build distinct theoretical connections. The goal here is to build a

distinctly architectural position as a hub for other positions in regard to the environment.

In other words, it can architecturally best when it is reflexive and encompassing with

others.

In *Prefixing Architecture: Re-viewing Re: Architecture: Themes and Variations*,

Teymur also states that practice is generally best performed within its distinct roots in

theory (and to this research, co-forming) and pedagogy. It is through education that

knowledge is communally and socially (interactively) engaged, reiterated, exchanged,

and transformed. While architectural education is generally engaged with pragmatic

know-how, this practice and 'skill-oriented' work should be enhanced with a

fundamental theoretical framework negotiating around epistemological, ideological,

sociological, axiological, and pedagogical awareness. Aligning with such philosophers

like Deleuze (as also with Wittgenstein), Teymur supports the idea that theory or

concepts basically provide us with a "box of tools" [288] or "instruments of critical

analysis"[289] and that they are essential to pedagogical (theoretical) as well as practical

(practice) endeavors. To him, it is necessary for these tools to be integrated into

architectural curriculum, as with others, to supply the necessary components of

knowledge for socially responsible practice. Going back to his early work, there seems

to be a continued emphasis on critical inquiry (primarily social) before action or *as* a key

part *of* action. By bringing in other knowledge bases and integrating them in effective

and dialogic manners this generates the needed framework to address more complex

issues.

The general goals of the *Critical Environmentalist* position proposed in this

research are to see how environmental issues at multiple levels can best be addressed

within architectural endeavors. For this research, it is within architecture however, as

especially in larger scale urban design, regional planning, and community development

endeavors (as manifestations of productive *epistemes*) that environmental issues become

most aligned. Within these endeavors is where we find the most distinctive features of

architecture, but also where the most borrowed (epistemological, ideological,

axiological, and problematic) parts are found and not fully utilized. This is also where

we find the most complicated interactive engagements between the greater community

and its most effective position within the environment. Urban issues are of key interest,

because they represent the greatest intersection and effect of human arrangements within

the environment, seen themselves as eco- or bio-systems. The material resources and land-use, meteorological, geographical, its sociability and so forth are all key connective features, however fully not tied together in a distinctive, co-substantiating or co-effective package.

Back in *Environmental Discourse* (1982), Teymur pointed out that at that time urban scale environmental strategies that had been attempted at various stages in this regard, wherein the general goals had been "to propose critiques of existing spatial/ urban discourses, to proposed 'alternative' theoretical frameworks (i.e.*problematics*), and to analyze mainly urban problems within the theoretical framework proposed. He states that the typical endeavor is usually cut short of its proposed goal and forced into quick application, with little follow-up to it success.[290] In addition, it must be noted that these approaches were typically not resolved along-side other disciplinary positions on the subject, retaining an internalized measure of success primarily kept within the discipline of architecture, as methods for interdisciplinary research and knowledge integration at that scale were still in their infancy. While there are now some case-studies of methods that indicate a process for environmental knowledge integration, there are few places which actually utilize these procedures. This is indicative of places wrought with environmental problems versus ones that have integrative structures. More recent case-studies, rooted also in multi-methodological critical inquiry and stakeholder/ interdisciplinary interaction are discussed later in this research that can shed light on current architectural endeavors and raise the stakes in these regards.

In a 2006 interview, Teymur discusses research and its relation to the architectural profession and remarks on the fact that only recently innovations in the relation of research inquiry and architectural endeavors have occurred.[291] In this, the modes and levels of inquiry have increase dramatically of recent toward environmental concerns. Keeping in mind that since Teymur's initial work on *Environmental Discourse,* 1982, not only have we had dramatic impetuses for educative transformation because of environmental problems (e.g. global warming, flooding, catastrophes, as well as economic, cultural, social), we have also developed an increased number of trained researchers that also have professional status (integration of theory and practice), along with increased levels of multi-methodological and dialogical inquiry towards the discursive nature of environmental problems. Herein, Teymur stresses the significance in current time to further inter-institutional inter-disciplinary, as well as inter-communal (industries, government, corporate, academic) collaboration as key to the current state of architectural endeavors, as it seems also for environmental endeavors as well.[292]   This is coupled with new technologies that allowed us now to better manage and cross-reference multiple interpretations, date-bases, stake-holders, and modes of inquiry simultaneously and leads us to unprecedented forms of *knowledge-building*, understanding, and application.

Below in the following subsections, we will discuss some basic properties of environmental discourse that we can strategically incorporate to support the *Critical Environmentalist* framework. We begin with recent research in environmental philosophy which identifies the epistemological significance of the environment as the

real object or referent. In this is also the significance of understanding the critical, embodied self(s) as a starting point for this research. We will also discuss in recent research the importance of understanding values awareness and education for environmental concerns. Then we will proceed by discussing the potential of understanding the discursive nature of environmental issues and thus a need for a mediating framework both at the socio-communal level and at a systemic or architectonic-knowledge level. Lastly we will highlight some recent work which attempts to offer possible operational framework and associated methodologies for productive reconciliation for both social practice.

'Grounding' Epistemology and Ethics Within the Environment

The research is concerned here with epistemological status in relation to the environment for three basic reasons. First, we bring to the forefront the significance of understanding an embodied and nested state of active knowing- and intentional-agents into direct correspondence and emancipatory relation with the environment as the conditions for creative (the highest intellectual capacity) thought and action. Second, we place significance on our capacities to tune or reconcile our ideological and epistemological status at multiple levels to correspond directly with the real and referent object of study (*the* environment) as the fundamental to reasoning. Third, we endeavor to create a supporting conceptual framework (a connective grouping of conceptual units) that can act as a supporting scaffold to hold together multiple fields dialogically, critically, and ethically. Environmental problems are not simple, they are complex and multifaceted and therefore required equally multifaceted responses. The question

remains as to how this multifaceted nature is understood and managed along connective conceptual and thematic lines. In this, what are the corresponding methods? These would have to be distinctly dialogical, hermeneutic methods designed with capacities to connect across points-of-views, to understand shared or common goals and to 'fuse' or cross-pollinate in such ways as to co-enable positions in like-correspondence as it actually exists. The epistemological components here are about reconstructing knowledge in such a way to substantiate or 'ground' knowledge in its reciprocal and varying ways into 'fitting' relations with each other and to the greater environmental domain.

In a series of recent, special topic essays in *Ethics, Place, and Environment,* under the overall heading of Christopher Preston's "*Grounding Knowledge*," [293] key authors (including Lorraine Code and Jason Kawall) together debate and discuss epistemology and the environment as bound together in multiple ways in an interconnected phenomenological condition. Introduced and summated by Preston in "Restoring Misplaced Epistemology," the epistemological subject is further reviewed here in direct relation to the environment itself and in reference to the natural sciences, where Preston brings to light that "dialectical biology, ecological studies of perception, enactivist cognitive science, and environmental approaches to philosophy of mind all provide evidence that the project of richly naturalizing epistemology means looking at how the particular spaces and places in which we do our thinking contribute to the knowledge we create."[294] However beyond naturalism or viewing the environment as simple surrounding backdrop, they addtionally foster "studying knowledge as a

thoroughly embodied and embedded phenomenon, contrived by fleshy and fallible

humans [agents] operating out of social and institutional contexts that influence the

kinds of things that they are likely to say."[295] This epistemological stance reiterates the

'knowing-subject' (critically aware agent) as discussed in critical social theory, but

emplaces and grounds the agent and their embodied knowledge(s) within their

environment as co-substantive. [296]

As also a critique of general philosophical epistemology, they attempt to

establish distinct inadequacies of the current model and instead raise the general purely

'anthropocentric' analytic approach to an understanding that epistemology can be better

understood in terms of 'groundedness' in environmental conditions.[297] Aptly put by

Preston,

> …It is just that such an approach simply cannot tell the whole story about the way people go about knowing things." An epistemic perspective is never as faceless, pure and detached as analytic epistemology pretends it to be and so those traditional approaches fail to illuminate a whole host of factors relevant to the knowledge process. There is something refreshingly real and down to earth about the turn towards embodied and embedded knowledge. Above all, it emphasizes the importance of worldly [environmental] context. This means more attention paid to social, physiological and material considerations, connecting epistemology instantly to other areas in philosophy and also to other relevant disciplines, such as history, psychology and sociology.[298]

He adds that our epistemological approaches are simply made inadequate by

isolating our "knowing brain" from its "connection to the bodies and the environments in

which they operate." [299]

Just as environmental endeavors can be better understood in terms of its

epistemological framework, an environmental perspective itself as a key position can re-

substantiate or 'ground' epistemological approaches. Preston advocates a revision for

thought and belief at multiple levels to foster an integration of mind with the environment. The goal for Preston, as with his interlocutors, is a root revision of epistemology, 'grounded' in direct relation to the environment, although this environment is seen in differing facets and emphases. This area of the research attempts to draw them together into a rough picture. In essence, they are connected through the notion of reciprocally connecting epistemology and environmental issues closer to the human condition, to real life situations, and significantly to this research as Preston points out, as connected "to a suite of disciplines" along these epistemic lines.[300]

From a critical social stance, the discussions acknowledge that human agents operate within inclusively social, political, historical and institutional environments and that epistemological propositions can be set in a "social location in terms of gender, race, class, theoretical and cultural context" of primarily these *human* contexts.[301] However, the discussion also brings to light that the location or place as a 'physical environment', as in a "particular geographical or material environment" can further influence and contextualize how an agent's epistemological claims are made or what the claim contains as content or reference.[302] Beyond being just historically, culturally, and socially situated, we are also in part and parcel geographically, biologically, and ecologically *situated* (placed). To Preston, since these factors supply the setting and physical conditions from which the knowledge claims emerge, "it might be possible to articulate a version of biological and environmental contextualizing that similarly suggests an influence of the environmental context," as an extended view of socio-cultural.

To Lorraine Code, what Preston (re)presents is basically the "Kantian shift whereby 'man' [reason] comes to be reconceived as 'part of nature' [empirical, sensory] and to how a line of development it initiates emerges in Quinean naturalized epistemology that Preston attributes the opening of possibilities toward a new epistemological orientation which starts from a consideration of how bodies and culture, place and mind [303]are active participants in knowledge production and how the knowledge produced bears the marks of its makers." From an overall philosophical context, the environment viewed as a holistic picture of essentially both critical reasoning in social context and empirical in its physical context is reminiscent of Kant's transcendental philosophy which holds that our experience and knowledge of things is about the relation and appearance of the exterior world, but in this case not necessary of the thing-in-itself (*Ding an sich*). A position also taken by Lötze and later in Husserl's phenomenology, the knowledge and relation (spatial and dynamic) with the world is mediated through our reasoning of a physical, but exterior reality. The later phenomenological approach advocated by such persons as Merleau-Ponty emplaces an 'embodied' notion of reality and knowing in a more direct and dynamically reciprocally relation. This ideas also manifest from another point of view as in Lefebvre's " *The Production of Space,"* in the chapter entitled appropriately "Spatial Architectonics," who similarly holds that 'space' itself, like the surrounding social environment (*milieu*), is more than an inert setting or simply a neutral container in which life/events happen.[304] To him, the production of space (both natural and cultural) and its epistemic structure mandates a setting situated in a multifaceted, systemic epistemology for its construction.

Agent to Socio-communal and Environmental Affairs

To Code, as well as others, there has been a general lack the detail within the human and natural sciences to geographical and human specificity: of what she refers to *"habitat and ethos."*[305] Her view reflects on the particularities of the inhabitants and their 'habitat' conditions within and around a location (how people dwell together in their *place*) to critically "discern where analogies [between points-of-view] can reasonably [and ethically] be drawn and where exposed disanalogies demand acknowledgement and/or rethinking."[306] Like Bourdieu's notion of '*habitus*," space is formed through active engagement and is a dynamic mediator for symbolism, daily routine, mental activities, communities, built form, and this is part of epistemological formation.[307] This notion also discusses the agreement of terms and conditions (including understanding the problematic or 'crisis') along common goals or shared impetuses. As the environment is composed of disparate elements and assemblages, the *habitat* can be seen as a dynamic, but distinct place or locator of action and correspondence along common environmental goals. The environment here is raised alongside ecological or naturalistic views to be inclusive of the social and situational environment that can be both dynamically, externally and internally, co-effected and co-effective.

Significantly, in this there is also epistemic significance in this for how we know the environment morally and ethically (*ethos*). Code points out that the subjects of epistemology and ethics parted company quite drastically (and quite regrettably) in the "heyday of positivism with its demotion of ethics to the merely emotive."[308] To Code,

closing this rift between ethics and epistemology is central component of more broadly envisioned 'epistemic responsibility' and is critical to developing what she refers to as a viable *ecological naturalism.*[309] Code's past work on "epistemic responsibility" has well illustrated how 'knowing carries certain obligations to the ''known'' (whether human or non-human) which require great *care* in their fulfillment of the concerns.'[310] However, Preston is interested in seeing some more fully worked out connections between epistemology and ethics, particularly environmental ethics. Preston notes that historically, environmental philosophy's primary concern has been with "articulating an ethical relationship to nature", but that like ethics more generally, "these environmental ethics projects commonly failed to address matters of epistemology or philosophy of mind."[311] To Code, the kind of environmental ethics proposed has to reciprocally "know 'nature' well in its detail and specificity if it is to establish the kind of respectful relationship it requires."[312] In many ways environmental ethics can be seen as a catalyst for patching the epistemology and ethics divide together in action and place. From our living place, humans negotiate with each other and with their distinct environments that also guide how they view the world as well as how they develop meaning, values, ethics, or even morals.

To Preston, the "positionality [place, geographically and environmentally] of an epistemic claim must be examined for the way it shapes the claim" as well as how the "epistemic value of diversity provides the normative recommendation to *care* for those natural environments."[313] How we view the environment morally can be shaped directly by the place or situation of occurrence and its shared meaning within that place and it

participants. The process of incorporated in one place or locale may also provide 'like'
approaches to environmental issues in other places. In another light, both Kawall and
Code draw attention to the fact that distinct social, cultural, and political considerations
would also need to be critically discussed and analyzed in order to fulfill the 'normative
agenda' of care and preservation of natural environments.[314] In either case, the
environment is an object of moral concern at multiple levels and is directly engaged with
the knower's epistemic framework and is inclusive of the varied ways in which we
engage. However distinct 'situatedness' can become singular or insular or not tested by
critical or more global engagement with others. By way of a diversity of interpretation,
the moral view can become de-centered in order to transform and realign with the
multifaceted facets and scales the environment entails.

Within the discussion, the authors also discuss at varying levels the need to
understand both the *homogenous* and *heterogeneous* natures of the environment toward
conditioning epistemic, as well as ethical or moral claims. On *homogeneity*, Lorraine
Code emphasizes the value of shared experience and common goals as exemplified in
her work as acknowledging "the positive dimensions of human sameness' and seeing the
'other' as *'second-self'* (agents: inclusive of persons, ecology, biology, community,
environment, etc.).[315] A collective sameness of knowledge can be considered the
foundations for epistemic solidarity resting on shared values and meanings. While Code
links epistemic agents (persons) as "*identical* [sameness] with the objects of moral
concern (persons)," Preston places emphasizes "the separation (and diversity) between
the epistemic agents (persons) and the objects of moral concern (natural

environments)."[316] The *heterogenic* side, as more aligning with Preston's epistemological views, emphasizes critical difference and interaction with the environment as 'other' and multiplicative as primarily indicative of environmental systems.

To this discussion, Code presents her notion of *Ecological Naturalism*, which "locates epistemic inquiry in [distinct] practices and institutions where people produce knowledge and from which they enact its effects."[317] *Ecological Naturalism* situates critical inquiry, "analogically and empirically", from ecological and natural sciences while understanding "ethical-political implications of knowing in place as operative in regard to its formal (social) structures. It is concerned 'with active *interrelations* among ...[species] and between them and their *habitat* in its most diverse [multifaceted] biochemical and geophysical properties.'[318] In this, it advocates the intra-active agency (capacity) of knowing-agents with 'the world' grounded in social formation as the critical environmental milieu.[319] This fosters additional and multifaceted levels of conceptual resources for addressing questions about knowledge and situated subjectivity.[320]

Formed around "ecological thinking," as Code puts it, the idea acknowledges the 'situationalist' and 'strong objectivity' of standpoint epistemology (with respect to Harding),[321] wherein inductive thinking (bottom-up, lieu of 'top-down' or "superimposing a template") seeks an explanative understanding integral to both the particular and multifaceted actualities and 'law-like character' the environment entails. To Code, this 'strong objectivity' is based on the assumption that "our beliefs (both true

and false) are partly shaped by social causes" as well as by social structures and their places of occurrence as conditional.[322] She discusses 'locatedness' or 'situatedness' as fundamental in understanding how epistemic claims form, but also how shared or collective knowledge are assimilated, structured, and reiterated by social systems (right or wrong).

To Code, the inquiry includes the natural *history* of organisms, as a key part of cultural and communal bearings (and of environmental significance), should also be integral to 'grounding' knowledge and the understanding of the 'spaces and places' agents collective share and inhabit.[323] This reiterates the historic component and the reiteration (continuance) of validity or communal traditions in Fay's critical social theory and is a significant component toward transformative action. With an emphasis again on critical inquiry, Code states that "sensitively gathered natural histories can generate ethical guidelines for enacting situation-specific environmental policies and even for the kind of 'ethical advocacy' that contributes to addressing 'environmental problems that threaten all living things'"[324] By addressing environmental problems in our own place, we can also begin to sympathetically understand like-instances or commonalties (sameness) in other places as well as within larger-scale, global arena. To her, "such inquiry opens spaces for democratic, deliberative, negotiative practices of selfhood and "epistemic responsibility."[325] These epistemological approaches require rigorous "attention to evidence," yet critically aware of the degree by which this evidence is interpreted across multiple viewpoints, each with "wide-ranging human and ecological consequences" as well as to the degree (again in reference to Code's

"Epistemic Responsibly") by which "knowing carries certain obligations to the 'known' (whether human or non-human) which require great *care* in their fulfillment." [326]

With the overall position, Code states that an ecologically naturalized moral epistemology "begins down on the ground, where people attempt to know their experiences and circumstances well, to claim acknowledgement for their knowings and to act appropriately in the light of them." [327] Again to Code, "Just as naturalized inquiry in epistemology 'proper' abandons the quest for a priori, necessary and sufficient conditions for 'knowledge in general' in favour of examining how people actually produce knowledge, variously, within the scope and limits of human cognitive powers, so naturalized moral epistemology seeks to discern real world (natural) conditions for knowing people, events, values and situations well enough to produce responsible assessments of 'the habitability of a particular form of moral-social life'." [328]

This ecologically oriented thinking, like the critical epistemological approach, attempts a sort of grassroots negotiation of multiple environmental referents in place ("not cleansing" or reductivist), "whose strength derives from analyzing [ ] *interests, materialities, presuppositions and the specificities of situation, subjectivity and agency*, as fully as it analyses traditionally conceived 'objects of knowledge' and from its self-critical commitment, constantly to monitor its own processes of inquiry.[329] Ecological thinking, as Code conceives it, "derives its evidence critically and self-critically, in thoughtful practice, for which locally, environmentally informed studies and their trans-disciplinary relations generate an ongoing skeptical wariness of presumptions to theoretical hegemony."[330] These positions reiterate the importance of 'bringing to the

surface' ('deriving', not imposing) and negotiating environmental concerns from some basic holistic, but multiplicative social concerns – that is, of *epistemological agents and agency (presuppositions), subjectivity and specific communal/group interests, systems of knowledge (trans-disciplinary relations), thoughtfulness and situated interests, and manifested practice and physical occurrences (materiality).*[331]

From the *heterogenic* stance, Preston emphasizes that the environment consists of heterogeneity with multiple views and a diversity of components. Similarly to Code, Preston argues for the "epistemic value of diversity on naturalistic grounds," stating that it is "epistemically beneficial to have one's cognitive structure directly challenged by difference".[332] To him, we should broaden our scope and maintain as much geographical and ecological diversity and "place-related disparities" as we can within the range society can foster. To him, despite the value of some shared environmental structure (Code, Kawall), there are also significant epistemic (as well as ethical) values to be gained from difference and knowing the 'other.' In this distinctly environmentalist position proposed by Preston and others, additional value is placed on the differing physical, ecological, biological and geographic environmental contexts as influential to epistemological claims as well as on the construction how we ethically know and actively participate with(in) our environmental place. In "Grounded Knowledge, Place and Epistemic Virtue," Jason Kawall responds to the subject by also pointing out that "diversity that can be sponsored by human-created environments." To him, "those environments can be enormously cognitively stimulating, often perhaps more stimulating than many natural environments, like in architecture or urban

environments"[333] Significant to the proposed position of this current research, the critical environmental conditions, along with the social conditions, are not inert or neutral, but are set in a dynamic spatial place of meaning and experience. In this way, the grounding of knowledge in this dynamics raises the environmental conditions to an epistemological position that "incorporates a much more comprehensive sense of an agent's epistemic location," or in essence their co-inhabited and contextual *place* as a reciprocal and total set of conditions for knowing, being, and acting.

Jason Kawall also extends the topic by emphasizing the notion of '*knowing how'* to help illuminate the ways that *knowledge making* should rarely be considered in total abstraction outside from the rest of the 'business of living.' We are, as Kawall points out, embodied creatures that interact with complex environments in addition to being brains that grasp propositions and generate meaning. Kawall draws our attention to the fact that a certain amount of 'knowing how' (in place) is often a prerequisite for propositional 'knowing that,' evening in a conceptual or metaphorical sense. This in turn suggests 'examining how we are to 'fit' our roles as *epistemic agents* into our "broader, [multifaceted and variegated] concerns as living, embodied creatures who have other goals, needs and desires." As also noted by Preston, Kawall suggests that "the original [grounded] value of knowledge is to be found in its use for creatures interacting with complex [and multi-variegated] environments."[334]

To Kawall, the actual skills (as with creative capacities) acquired to engage and navigate the environment are at least "partly constitutive of the knowledge itself" and are analogous and grounded with like-virtues of conceptual terms and epistemic

constructions. Preston points out a direct reference and similarity here to Mark Johnson's account of the "embodied mind," wherein conceptual structures that we thought came entirely from inside the mind turn out to be heavily dependent upon the ways our bodies move through an exterior environments. He states that sensory-schemas structured from the exterior to assist us in moving and navigating like 'balance' and 'from to', are analogous to conceptual categories such as 'justice' and 'reaching a goal,' and therefore synonymous.[335] While Johnson bring to light that there are generic characteristic all human bodies have and maintain to negotiate with the environment, Code states that there exists no generic body about which these claims can be made. Differing attributes of age, size, shape gender, race, etc. carry differ values and epistemic claims and thus play varying roles in how the environment is interpreted and used. While some concepts may seem universal to all bodies, the environment is composed of difference, and difference itself is also distinctive of the environment and is of epistemic significance. The environment provided the rich conditions for deep semiotic constructions and for conceptual, metaphoric, or theoretical propositions.

Kawall also draws connections between Preston's 'grounding knowledge' and Sosa's 'virtue-based epistemology,'[336] wherein "epistemic virtues manifest themselves only through actual engagement with an epistemic domain (referent), rather than simply through the passive reception of particular stimuli."[337] Knowledge and the concepts formed are not just by internal mechanisms (as in pure reason), but in many ways are "literally constituted by environmental consideration,"[338] linking all forms of experience and understanding through an immanent and dynamic catalyst. As in architectural

constructions, engagement itself with its environment at multiple levels is not just a prerequisite for the its knowledge, but distinctly part of it. The terms for use are drawn from direct engagement with the practice of articulating environmental relations and considerations. Here virtues can also be attached to notions of benevolence and balance, or even beauty (even if subjective), as environmentally substantiated epistemic virtue. [339] To both Preston and Kawall, knowledge gained through direct and conscious engagement with the environment is capable of "yielding more responsible epistemologies," leading to a more valued understanding of the interconnections with our moral or ethical beliefs, desires, as well as our inherent nurturing care of others.[340] Another case can even be made in regard to creative skills – that is, our creative capacities are interconnected with the conditions for these acts to occur and the intrinsic conditions for aesthetic value (our knowledge of beauty in its diversity). Creative acts most consciously engaged with the epistemic reference and thus environmental conditions yields the greatest potential for increased value and meaning.

Stressing the argument for a more formal epistemological dimension of the environment, Preston discusses the need for the "construction of 'interactive, dialogic communities' to ensure scientific diversity, respect for background beliefs, and adequate debate over 'different *value* biases' (emphasis added)" [341] Here, he brings to light Mark Johnson's discussion of "imaginatively taking up the perspectives of others" as key to achieving a certain "transperspectivity."[342] Preston considers this as a sort of "imaginative empathy," essential to knowing how it is with other people and with other places as essential to overall care and understanding.

In addition from a critical social stance, Code also points out the significance of "understanding how one's access and exposure to particular social and natural environments are conditioned social and institutionally by power relationships." She stresses not losing site of the "complexities and the powers or dangers of widespread conceptual structures."[343] This notion leads toward understanding the social construction of central concepts and how these dominating views socially 'condition' and structure how we perceive the environment and interact collectively (wrong or right). This socialized structuring of knowledge is also seen as privileging some forms of thinking are over others, as in dominating views over gender, race, age, culture, class, technology, or the environment itself as a separate, secondary, or subservient priority. This is often seen in institutionalized discourse and dominating educational massification (another sameness) of knowledge. Social imagery, equivalent to discourse or propaganda has been pointed out particularly in critical theorist and poststructuralist views, as carrying great epistemic significance.

Architectural, urban space, or larger scale urban developments can be seen here as equivalently epistemologically forming as it both draws from knowledge sources and also creates physical dispositives of knowledge (as image and built form) within the environment, bound spatially in socio-cultural tradition and environmental concerns. In this, a truncated, disparate, or overly abstracted version of the environment as fostered by many cultural built-forms is of equivalent epistemological significance in that is can redirect a knowing-public toward dominating institutional views (western culture, colonial) and away from otherwise secondary views (like race, class, gender, culture,

environment, nature, etc..) This view often ironically sees the priority as the removal,

gentrification, or 'upgrade' of these secondary positions in lieu of embracing them as

primary and necessary. Tied in with a history of events, the collective sameness of

views can also be seen as both dominating and damaging toward the environment (at

multiple levels alike), understanding this aspect *as* the social 'crisis' is also a key

component to transformative action. To Code, a view that like like what she proposes

"could aggregate [people] around a common emancipatory project" as "alike and

identically oppressed by the structures and practices of pre-feminist, pre-

environmentalist, ungrounded, and dislocated philosophy."[344]

To Preston, the social constructivist claims, as pointed out by Code, are

fundamentally "epistemologically inescapable" as we generally cannot talk about the

environment, even this topic, except by using the concepts or linguistic terms that are

humanly developed. However, Preston also points out that there are inherent problems

in emphasizing the social constructivist view (over-shadowing the ecological or

geographical) in that connections made with the environment are generally directed

toward and validated by an 'intrumentalized' version that sees the environment as usable

or exhaustible resource or as inevitably dominated by human practice.[345] Preston

extends the discussion of social construction to highlight that we are also different and

co-effective of environmental factors and that sometimes, more often than is presumed,

those factors influence us independently of our social identities and communally-formed

knowledge. He points out that environmental problems can be distinctly exterior to

social and can be thought of as 'stand alone', as there is simply "no way of socially

[re]constructing these environmental forces away."

Preston points out that while many environmental factors that influence our epistemic locations essentially become apparent through complex socio-cultural imaginaries that are socio-communal generated (constructed) and expressed, other factors influence us rather directly at a distinctly individualistic level and are comparatively clear-cut in their operation.[346] Basically, environmental forces act upon epistemic communities and across socio-cultural imageries in fairly immediate, effective, and identifiable ways. At times the environment itself, particularly with instances of human interaction with geographical and ecological locations, can be seen as "constitutive or regulative of social [construction of] knowledge" in that it shapes, generates, or sustains our individual perceptions and social-cultural imaginary more directly than by our social and cultural locations,[347] perhaps overlooked because of their obviousness. Preston puts emphasis back on environmental concerns and argues "that even when environmental forces effect a community and reshape a social imaginary in ways that transcend individuals, there are elements of that reshaping that are common, community wide and independent of age, gender or other social variables.,[etc]." To him, the epistemic and socio-cultural field between individual points-of-view are united by certain features of their ecology and geography. This is perhaps evident in places like the New Orleans or Amsterdam, where environmental factors play a role in the development of built-form (housing typologies, urban layouts and zoning, levee walls, etc.) and even with subtle cultural features, such as the names of places (Bywater, Amster-dam), streets (Canal Street, Wall Street), food or drinks (Hurricane), and etc.

Significant to current 'environmental crises,' destruction to the environment here can be thought of as destruction to the conditions for knowing itself. If the structure is self-destructive, the system collapses, both the knower and that which is known cancel themselves out. As eloquently stated by Henri Lefebvre in *The Production of Space*, "It is becoming impossible to escape the notion that nature is being murdered by 'anti-nature' – by abstraction, by signs and images, by discourse, as also by labor and its products [a detached episteme]. Along with God, nature is dying. Humanity is killing them both – and perhaps committing suicide into the bargain [as counter-creative action]." [348] To Preston, "at a time when increasing attention is being paid to the question of how to live sustainably on Earth, it seems fitting to propose that humans depend upon the Earth in subtle ways even when doing apparently the most elevating of human activities, the creating of knowledge."[349] These ideas revolving around understanding the nature of epistemes in regard to the environment manifest themselves though multiple perspectives, but interconnective and reciprocal (co-forming, co-substantiating, co-enabling) engagement by active-knowing agents retains itself as the significant and immanent feature. This view acknowledges that the dynamics working between environmental (both cultural and naturally manifested) and socially constructed epistemologies are reciprocally co-operative.

In summation, this collective discourse offers here reciprocal or mirroring views of emphases. Code critically stresses the value of the individual *agency* and structural social systems, while Preston leans more toward physical geography, ecology, and environment conditions. From Preston's comments, Code also stresses the importance

of accounting for the "epistemic significance of place" and "the development of a place-based, socio-cultural imaginary out of which knowledge claims usually issue."[350] As reiterated by Code, Preston's '*Grounding Knowledge*,' provides "epistemological significance," to the "specificities of place and situation in their multiple capacities to influence, generate, or impede knowledge projects and the knowledge they produce."[351] For Preston as with Code, they both recognize that "places are cultural, social, geographical and intellectual" and that these together form a conditional basis for epistemic claims, for how we *know* the environment.[352] Preston's idea of "richly situating knowledge" also implies that situation is itself the place to know "whose intricacies have to be examined for how they 'shape' both knowing subjects [active intellectual agents] and the objects of knowledge, how they legitimate and/or disqualify knowledge projects."

In this, Preston makes a central case for understanding a "sense of place" that is primarily environmentally-bound and embodied by individual active human- agents, as integral to transformative (albeit socially-bound) epistemic endeavors as well as for environmental concordance. In this, Preston also points out that environmental factors should not be taken as neutral, but are constitutive of social systems and require critical acknowledgment as well as careful and reflexive examination of the variously generated knowledges or perceptions will be effectively disseminated and incorporated by different elements of a society (albeit again socially perceived and constructed in a particular human way for human engagement). Here it is acknowledged that geographical and ecological factors are relevant to a "person's locatedness" (in cultural and social arenas)

as well as to their moral of ethical disposition and view toward the greater environment.

In either case of emphasis, these views share aspects toward how we construct our knowledge by way of environment conditions, although apparently at multiple levels that must be critically negotiated in varying degree and in varying situations. Both seem to agree with the equivalent attention to the ethical dimensions of epistemology and to the epistemological (rational) underpinnings of ethics, grounded in the naturalistic state of affairs that a total environmental view entails.[353] What this inevitably involves is conscious, critical, and active-engaging agents reciprocating and negotiating back and forth between social systems and epistemes that form environmentally, and environmental systems that form socially and epistemically. This essentially then becomes a question of balance, priority, reciprocity at differing levels. In this view, the "grounding of inquiry" together in these social, cultural, and ideological places (Code), as well as in geographical and ecological factors (Preston) can be a significant factor in the development of what Code calls a revisionary (or transformative) "successor epistemology."[354] To Preston, the overall view is an "achieved epistemic stance," explicitly chosen as "a place that can be mapped to facilitate responsible and ethical knowing" and that can guide action [355]

Within this discussion, we are placing the epistemic and the knowing-agent in direct connection with the environment, albeit at varying levels and scales socially, culturally, ecologically, and geographically. We endeavor to bring to the surface, the complexity of just what this environmental 'groundedness' can critically entail. In the basic case, there is a direct connection between what is known and the object (referent,

"(s) *subject* knows that (p) *proposition of fact*"). In another sense, this is extended to an understanding of the fact that action and engagement themselves within the environment provide the conditions for capabilities, concepts and terms, together forming how and what we know and how we may engage. Starting with *critically embodied and epistemologically active agents,* the process engages how they actively participate in knowledge construction within their *socio-communal settings* which included their distinct *places of habitat* and shared communal *ethos.* This sociality of the *agent-in-place* is broadened to include the *systemic* and multifaceted nature of the greater *environment* as equally epistemologically forming (naturalistically, geographically and ecologically). From the composite of these interactive fields and scales of active-agency, meaning, values, and ethics (*axiological* components) emerge intrinsically and vital interconnected with its participants. This engagement is also seen in the critical social sense as ranging from interdisciplinary and cultural interaction to broad-based systems of knowledge (across a broad field) or even to environmental systems as emergent forms of knowledge. Epistemes are influenced ecological and geographical locations, but also by cultural, historical, traditional, political, sociological, and/or institutional forms of knowledge-in-place formed situationally and communally.

We can acknowledge the constructivist view toward the environment because it is also the point where our critical thinking ensues, the fundamentally hermeneutic perception that guides how we socio-communally alter the world to our needs and understandings. However, an overemphasis on overtly humanly-centered or instrumental knowledge is also at the root of knowing environment and the agents in it

by way of homogenization and dominating cultural or institutional influences, overlooking how environmentally bound they may really be. This critically of positions plays a role in our knowing, and if our knowing is based on construed or truncated versions of the environment, we may never get back to the original referent. Like much of what is presented in these discussions, the *Critical Environmentalist* position puts great values on the referent, the environment at multiple scales as dynamically setting the conditions for epistemic claims, of how we know our world, and how we may interact or transform within it.

As a model, architectural endeavors and its supporting framework (as together knowledge and space creating) must also correspond and reciprocate the overall systemic structure in order to take into account the truly interdisciplinary and interactive nature of the world. Architectural discourse needs a re-contexturalized or re-orientated mode of 'being' into its environmental setting, but still needs to retain its distinctness as a work of sublime work of human creation. Human creativity and architectural knowledge must be placed immanently side-by-side with a strong critical rationale and an understanding of the diversity of environmental forces of the world. In this an imperative exists to develop an integrative, system-oriented environment, without leaving behind significant, multilevel knowledge and practices behind, rooted in the depth of interpretive, historical, philosophical, axiological, and ontological bearings.

"Critical Environmental Hermeneutics"

John Van Buren, in "Critical Environmental Hermeneutics," discusses the topic of forestry to illustrate the importance of understanding that the diversity of multiple

stake-holder positions converging on environmental issues are always co-interpretive and thus dynamically hermeneutic, that is - around any singular spatio-environmental concern or subject, there are many converging discursive perspectives, interpretative meanings, uses, methodologies, etc., that must come together in reconciliation of a total set of environmental conditions.[356] As an indicative model of overall environmental concerns, he focuses on the interpretation and use of forests (a particular environmental issue) by characterizing the crosscurrent of disparate and conflicting views between varying stake-holder perspectives (e.g. between logging or paper companies, governmental institutions, conversationalists, environmentalists, indigenous peoples, local residents, recreationalists, etc…)[357] The more complicated the situation, the more interpreting stake-holders come to play a role in what becomes in reality a singular situation composed of multiple views.

Aligning with other philosophical positions addressing environmental problems, he presents the need for multi-level philosophical reflection as roughed out in a "*critical environmental hermeneutic*" method to help identify, clarify, order/manage, and address the basic complex of differing interpretive narratives revolving around the environment at multiple scales in terms of the underlying *epistemological*, *ethical*, and *political* issues involved.[358] While Van Buren does not offer particular solutions or methods, he fundamentally acknowledges the dynamic hermeneutic relation of stake-holders and calls out the need for the fundamental and necessary understanding of the complicated nature of independent desires acting within the environment. Actively addressing the hermeneutic approach, however can lead to a developing methods and moderating

processes that can place multiple conditions on the table so as to be addressed collectively within a single, negotiating epistemic framework.

He places his argument along-side the philosophical hermeneutics of Heidegger, Gadamer, and Ricoeur, as well as with it the pragmatism of Rorty, and discusses that critical hermeneutics, narrative theory, and critical social theory can be applied as significant features of environmental ethics. He recommends the use these primarily *hermeneutic*-based methods to elucidate the "'deep' underlying issues" or meanings relating to the perception, interpretation, and use of the environment. In this, he discusses that hermeneutics as more than just about interpretation of the world, but ideally involves critical negotiation between conflicting views in the world (primarily leading to some from on application or manifestation of those interpretation and the resolution of conflict). He discusses that the environment itself as the primary catalyst for bringing ideas together. No environmental problem can be addressed without conflicting views converging on the same table. However, we seek a certain 'fusion of horizons,' to how Gadamer refers, that can be mediated into common goals and values and eventual collective application. He attempts address the critical problem of reconciling conflicts between differing interpretations by building a working set of dialogic and "legitimating criteria (truth-value) to which all parties concerned would ideally be able to subscribe."   This rough set includes "*biological, historical, technical*, and *communicative ethical-political criterion.*"

The *biological* criterion discusses the fundamentally 'fits' between human, subjective states (*agents*) and how they correspond with each other and with the greater

environmental domain as itself a truth-value assessment. To Van Buren, "truth means *creative* correspondence, *interpretive* adequacy, because, even tough a viewpoint has to fit the biophysical world, it still mediates and interprets this physical world in terms of the realm of cultural sense or meaning [*axiological*]." The *historical* dimension discusses the fit or coherence of interpretations within established socio-cultural (historic) traditions with particular communities so as to not override local views by external mechanisms. The *technical* criterion, also referred to as a *pragmatic* criterion, discussed the end-product or realized manifestations of interpretation and its correspondence to actual needs, to do something particular. Quoting William James, "truth is what works, what is pragmatic, what is fitting and adequate to pre-given ends." This places interpretation within the technical domain of instrumental reasoning, or the Greek *techne* or 'reason to produce' (Gadamer). Here he discusses also the 'fit' within the "sphere of activity" as related to social activity and organization by particular needs, but intrinsically guided and grounded by ethical criteria wherein the social participants are an active and critically transformative part. This is reminiscent of Sidney in his *New Arcadia* (1516), who described architectonics, the systemization of knowledge, as the "knowledge of ethics and politics," as politics itself involves ethcial reciprocity bewteen multiple or 'poli-'faceted stakeholder involved in collective and shared endeavors.

In this, the *communicative ethical-political criterion* plays the distinct role toward not just serving instrumental reasoning, but (referring to Aristotle's Nicomachean Ethics) that which is governed (or 'ruled') by practical or ethical reasoning (*phonesis*).[359] Van Buren lays out this practical reasoning as about the working out of the ends and

means of human action by rational (dialogic) discourse (*logos*) between free (emancipated) citizens (participants) in the public or political (multifaceted) arena. Communicative (of dialogic) rationality intrinsically provides, as a basis of human sociality, a *communicative-ethical-political* criterion to legitimize and arbitrate between multiple conflicting views, wherein some views may dominate or override others. In his conclusion, Van Buren discusses a direction toward what he terms "*Communicative Environmental Reasoning*," to provide a framework for dialog 'to work things out' through a meta-narrative of environmental components, albeit along connective criteria.[360] This overall view deals with how the environment is organized pragmatically and instrumentally, by also how it catalytically engages distinct agents (with identities and interpretations) within a community of affairs at multiple levels toward ethical, balanced, and mutual benefit.

Multi-Methodological Schemas Toward Environmental Concerns

In their summate of *Engaging Individuals to Act Strategically Towards Sustainability,* Kristoffer Lundholm and Renauld Richard state: "*In order to reach sustainability, all parts [as active agents] of the system "individuals within organizations within society within the biosphere" must change.*"[361] Similar to *Critical Environmentalist* approach, Lundholm and Richard explored how to improve knowledge integration and engagement with complex environmental issues at multiple levels. They begin by first identifying key concepts connection points within a broad trans-disciplinary literature review and then structure their research and categorical information in an accompanying resource they aptly call the "*Five Elements Guide –*

Structured Information to Help Engage Individuals to Act Strategically Towards Sustainability."[362] They support their views with case examples to demonstrate their ideas in real circumstances. Coming at the problem essentially from a socio-psychological stance, they believe that environmental problems begin at the scale of the individual agent and show that developing string leaders with a clear understanding of the problems and the ability to act within their community was of particular importance. While they don't specifically address the issues as epistemological *per se*, they do address that sustainability issues in regard to one's cognitive mental abilities, human behavior, and the understanding of one's self and actions with others within greater systems as fundamental. However, they imply a distinct epistemological position because they base they ideals on the need to critically understand the "deeper awareness about determinants [conditions] of human behaviour and about how individuals change and become engaged." In addition, they foster the goal of "linking diverse areas of knowledge" toward collective engagement initiated by individual, active gents. [363]
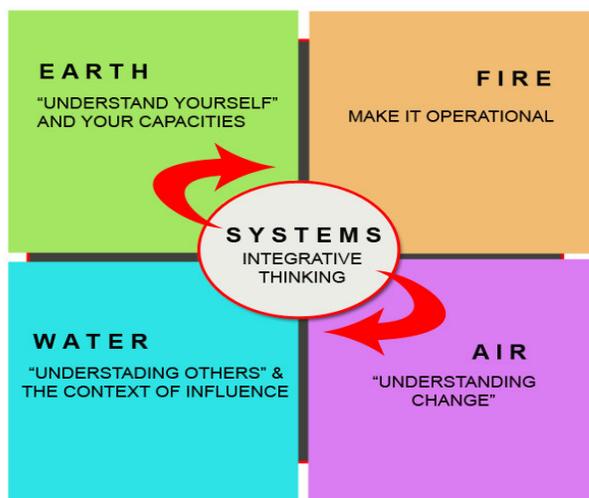
Figure 3.1: Relational Diagram of Lundholm and Richard's "*The Five Elements*" in *Engaging Individuals to Act Strategically Towards Sustainability.*[364]

In their report, Lundholm and Richard distilled essentially five elements from their literature review (Figure 3.1, metaphorically aligned with the Eco-system Elements: *Earth, Water, Air, and Fire with the added connective 'Systems' component*) as a guide to help analyze and improve existing practices (rooted in knowledge) and how they may be incorporated to develop "engagement interventions" to act collectively and "strategically" toward sustainable goals. These categorical positions, like those that form the Critical Environmental position, are seen by them as "leverage points" or connectors between the other elements and formed systemically. Significantly to both proposed positions, it is important that the elements or components are actively interconnected and interdependent. [365]

The *first element* they identify as basically foundational to the others is simply: "*Understand yourself (the engager) and what you want to achieve (strategic actions toward sustainability).*"[366] Here they identify the significance of knowing *self* as the distinct acting agent – this is, *your* interpretation and understanding of the world along with *your* intentions and desires as effectual. Metaphorically and analogously, the "*Earth*" here is viewed as "the root of all changes," itself the key place for engagement and for understanding one's self and their relation to the desired outcome. Essentially the Earth is *us*, here and now. It also sets a spatial sphere as conditional for the self's engagement and the conditions or epistemic terms for engagement. This also means developing an understanding of what one wants to achieve and of their "[capacities,] strengths, weaknesses, limitations, [funds,] and resources[-at-hand]"[367] that are necessary in order to be "able to take strategic actions towards that goal." The root

conditions for understanding starts with the self and an understanding of the self in a

bigger picture. To them, "individuals are major leverage points, and being more

efficient in engaging them to act strategically towards sustainability is and will be of

critical importance."[368] They bring to light that critical awareness and self

empowerment is essential for developing good leaders, stewards, community and inter-

or trans- disciplinary participators, and thus better engagers toward complex

environmental issues. This mirrors the essential position of critical social theory

wherein critical awareness and understanding the self's identity and place within a

greater domain of affairs as significant to emancipatory transformation as well as

developing reciprocal capacity to empower others as one empowers oneself.

Extending this notion, the *second element* Lundholm and Richard identify is:

"*Understand other's behavior and the influence of context (the "other" being the*

individual who wants to engage, a semantic way to distinguish between engager and the

engaged." To them analogously, "*Water* is like individuals and can appear in various

states depending on many factors, including the context" [369] *Water* can also be thought

of as having reflective qualities and being predominantly in a dynamic state of flow,

flux, or change. While the self is looking at this state, there is inevitable reflection and

engagement with an 'other' state. Here they identify the importance of the emplacement

of the individual agent within its communal, cultural, social, and contextual [place]

components and embodied inter-epistemic engagement as critical to the co-construction

and co-sustainability of the total environment. They also emphasize that collective

awareness of the problem and the sharing of ideas as fundamental to dealing with the

environment at the larger scale. Since, no one idea is going to make the needed effect, knowledge building, collaboration, public commitment, and communally active agreement and engagement is paramount.

The *third element* leads toward an active notion of: *"Understand how change happens."* Analogously to them, "*Air* can be a mild summer breeze or a violent storm, like change."[370] Like *Water*, *Air* has flow and movement, but also implies a particular spatial and co-effectual relationship of things. It also has the capacity for instability and flux. Here they promote an understanding of the conditions and contextual relations that shape and influence human behavior, individual actions, and how change can come about (or not). These conditions are both resources and limitations that set conditions or terms of engagement for enabling individuals to develop suitable "strategies, methods, and tools (*Fire*)" toward environmental issues. From an epistemological stance, they additionally note that that more knowledge in itself (or simple information) does not necessary "automatically lead to more enlightened behaviour" or to more positive effect. This becomes prevalent in the shear mass of ineffectual information, political stances (often simple 'fear factor'), and communicative practices floating about environmental issues that are simplistic and reductivist in nature. These approaches tend to not view the total picture in a managed way, inadvertently prevent or delimit actual action, or may in effect use more energy than produce a positive change.[371] In addition, analogous to the *Air* we breathe; contamination or delimiting the potential of the knowledge framework leads to a set of conditions not conducive to the health of the system and inhibits capacity for activity. In essence, it becomes difficult to perform when one's

environmental atmosphere is being choked or polluted. A healthy and productively interchanging framework of knowledge provides increased potential for positive action.

From an axiological point of view, the lack of knowledge, albeit generally coupled with reduced awareness and 'appropriate attitudes,' is significant, but are not in themselves the only or most important aspects that can delimit transformative action. Positive change happens though negotiation between perceived *value* difference (axiological dimension) and engaging the problem directly (contextual, situational action), establishing means for empowerment and increased capacity to make transformation happen and promoting meaningful and lasting changes for its stakeholders. To Lundholm and Richard, this is why "inviting someone to something purposeful, meaningful, and learningful"[372] establishes mutual impetus as an essential motivator strategy for engagement. Here they also promote that "public commitment" to a higher purpose (be it "political, intellectual, emotional, spiritual") is significant to motivating ethical action and providing foundations for lasting and meaningful effect. From an argumentation point of view, one has to provide enticing reasoning for the 'other' to make an equal investment and commitment to the same overall goals.   A distinct value for the environmental and for working together within the environment must be established. This point of view essentially fosters an idea similar to the critical social sciences position of understanding the effectual *self* in relation to the *crisis* or problem as essential to emancipatory transformation (solving or freeing one's self from the problem so that it may pursue higher desires). The higher pursuit in this case is to

raise the environment to a value level where it is thought of as essential to knowing, being, and living well and in the best way for all.

The *fourth element*, which leads into an operational mode is: "*Design an approach and perform it*." They make the analogy to *Fire* because it "takes some effort to fuel and structure [this] correctly to make it strong, just like a lasting change needs a well-designed approach."[373] Alchemically, *Fire* is also the force of transformative reaction that makes things happen. The authors also indicate the importance of "knowing in relation to situations and how interventions and effects occur." This also indicates a distinct purposeful and performance base for action, organizing components, and 'making things happen' toward productive objectives. Basically things do just happen by themselves, but are performed by active agents working together within a mutually understood and agreed upon plan that is directed toward distinct needs, problems, or goals. In this, the goal aligns multiple positions and desires along a single, motivating force. This approach to performance also has to be thought as a sort of algorithm, a *telos* or process where all agents, parts, functions, and actions lead toward the same prize. This notion is seen in what is referred to as 'embedded' case study, where the goal not only grounds knowledge within real, complex situations (*in situ*), but endeavors to build more collective force and long-term meaning and vitality within a community of knowledges, desires, and actions. This reiterates as well the notions of emancipation and empowerment as enabling forces leading toward application of ideological positions and subsequent transformative action, as discussed in the critical social sciences and applied within many documented case scenarios. Various case

studies and their applications for architecture will be referenced later within this research, primarily the *ETH* studies, as examples of these approaches within complex community and urban design scenarios leading toward the specific goal of collective sustainable development at multiple and systemic levels of engagement.[374]

Herein the Lundholm and Richard's process becomes finalized in *fifth element* which is appropriately: *"Think Systems."* In order to understand and organize the components as total working whole, reflective of the complexity of the environment itself, it is important to address "how all groups or information [its parts] are [integrally] interconnected and interdependent, i.e., 'systems thinking.'" [375] To the authors, a system's perspective becomes the necessary framework that makes all things possible. Like the plot of a story, this is thought of as both a distinctly connective device as well as intrinsic mode within all the elements, as it both 'links' the other four together within a container or framework and is also always-present as the primary essence within them. This is akin to Peirce's notion of a 'continuity' of knowledge as reflective of the same continuity of nature or the cosmos and thus attempts to also link our knowledge and actions with a generality of conditions within a greater domain. The whole process attempt to address the complex whole through manageable smaller units of "systems within bigger systems." Quoting Senge *et al*, the authors bring to light the notion that systems are "anything which takes its integrity and form from the ongoing [continuative] interaction of its parts."[376]

This idea involves thinking both as an analogy to environmental or cosmological systems and as systems of human knowledge, a notion reminiscent of what Kant or

Pierce might discuss as an 'architectonic of knowledge.' To Lundholm and Richard though, "it is necessary to take a system's perspective when planning to engage individuals due to the complexity of human behavior" in themselves as essential to larger environmental issues. This is in part because of the shear complexity of active parts or agents within the system each interpreting and acting within the environment in differing ways. In this case, we are 'thinking systems' of human knowledge and associated behavior, along with the complexity of multivariate environmental factors and forces, that can be incorporated together to address environmental issues at multiple scales and complexities, primarily and significantly as a benefit directly to human concerns and well-being.
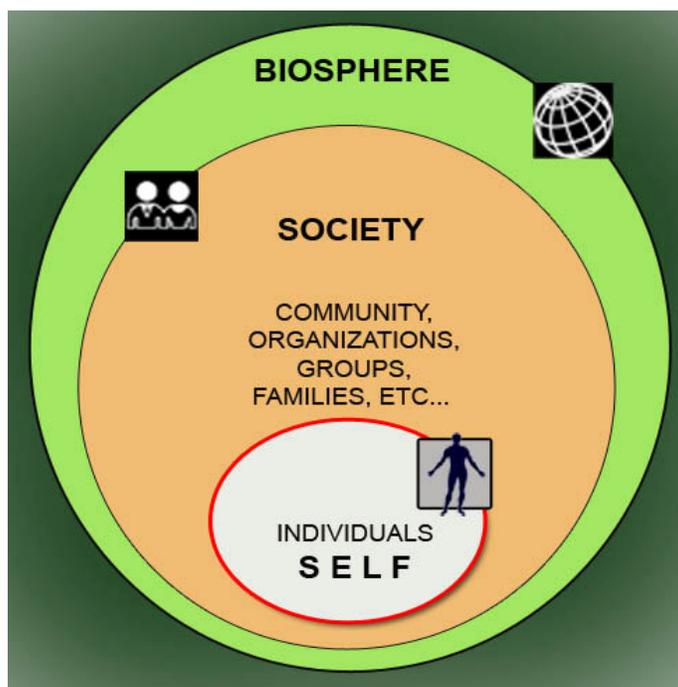
Figure 3.2: Diagram of Lundholm and Richard's Holonic Relation
in *Engaging Individuals to Act Strategically Towards Sustainability.*[377]

In summate, Lundholm and Richard state that "*The Five Elements* are valuable because they cover all the levels expected for successful [human endeavor] planning in complex systems, and because they are supported by deeper levels of information [and meaning] at manageable scales." These elements represented in this report are the closest and most directly aligns categorically as well as philosophically toward environmental conditions to those proposed within the *Critical Environmentalist* framework. The *Critical Environmentalist* projection will later build upon these ideas, as well as similar components, but will be enhanced by further sociological and philosophical inquiry. Building off what we have learned in critical social theory, there are still some parts missing or just not yet fully brought to light. For instance, the authors here only generally address *axiological* issues regarding ethics, values, and meaning as substantial to the subject matter, albeit briefly in their discussion of "understanding others" and "understanding change." Because these are many agents and views, each interpreting differently, there needs to be an extended discussion of how to foster environmental goals that are meaningful and valuable across agents, cultures, communities, disciplines, and otherwise other knowledge domains. From our research in critical social theory, the additional discussion can be directed toward a mediating and critical response to this issue, one based in social inquiry. Otherwise, how can we be truly critical when we have not addressed the issues regarding dominant views vis-à-vis multiple agents desires and how do we ascertain when we have potentially caused harm to another position. While ideological sound, the ends may not justify the means and what may be lost along the when these aspects are not rigorously reviewed.

The Viability of the Socio-Environmental System -

Environmental Literacy and an Oriented Educational Community

One result of formal education is that students graduate without knowing how to think in whole systems, how to find connections, how to ask big questions, and how to separate the trivial from the important. Now more than ever ... we need people who think broadly and who understand systems, connections, patterns, and root causes.
        - David Orr, *Ecological Literacy* [378]

Within the discursive nature of environmental discourse, the 'critical environmental' framework is essentially already credible as well as viable, as the discursive nature itself cannot be seen as itself the problematic, but as the essence toward meaning and knowledge creation and productive action. However, as with critical social theory, environmental transformation and on-going sustainability inevitably rests in socially oriented education, the development of an intrinsic, systemically oriented episteme, and an intrinsic socio-environmental praxis.[379] It depends on a certain, critical if not 'radical,'[380] education, which focuses on the individual's critical awareness of their constructions (action oriented and causally effective) as part of a larger scheme (like the famous environmentalist educator David Orr's "Eco-literacy" paradigm mixed with a critical awareness of socio-cultural literacy), the total life-space that I will refer to as the 'greater domain.' In this case, when an end condition within a *telos* is thought to be achieved, the inquiry processes during design needs to continually proceed through additional iterations of inquiry, further questioning and expanding the reasoning behind decisions and their implications. In the bigger picture, we are interested in the current state of architectural discourse in regards to its ability to incorporate increasingly systemic thinking and to recognize the increasing relevance to our way of acquiring,

using, transmitting, as well as producing knowledge. In support of our point of view and the development of an incorporative episteme, John Danver's article, *Towards a Radical Pedagogy*, states,"the need for critical alternatives to dominant ideologies and practices is as great now (if not more) as any time in the past century."[381]

Educator David Selby, in a article entitled, "*Education: Towards a Quantum Model of Environmental Education*, attempts to address many of these issues. Selby presents arguments by the educator, David Orr stating, "the ecological crisis is not a technological problem that we can fix with some new-fangled gadgetry or updated economic models." Instead he presents a spatially collective (inclusive), epistemic problem: "The disordering of ecological systems and the great biogeochemical cycles of the earth reflects a prior disorder in the thought, perception, imagination, intellectual priorities, and loyalties inherent in the industrial mind." To Orr, the key to environmental practice is "ecological" or "environmental literacy," and this literacy (or not) is learned and reiterated socially in educative and disciplinary practices (all in essence environmental). He goes on to connect the environmental crises with community issues and social practice, including a discussion of how knowledge is formed in relation (reiteration Fays critical social sciences position of the significance of education and critical awareness). In other words, the overall ecological crisis is a "crisis of education" and thus our framework knowledge (episteme'), one in which "we continue to educate the young (*en masse*) for the most part as if there were no planetary emergency," or a reasoning that even considers it a possibility.[382] There seems no connection in the mind of the modern collective in regards to the greater context. A technological or ecological

sustainability as well as intrinsic is engaged reciprocally with the cultural and

intellectual mindset.[383] Simply changing the material context and the energy used,

without an epistemic reasoning to connect it to an overall picture will provide a useless,

unregulated model. On the other hand, an epistemic, even a strongly philosophical one

without a productive and technological mechanism to initiate ideas, becomes fruitless as

well.[384] He fosters an imperative to understanding (or grasping) the complex framework

of forces and occurrences, if we are to address the real, environmental issues-at -hand.

Here, he states:

> Global education is an holistic paradigm of education predicated upon the
> interconnectedness of communities, lands and peoples, the interrelatedness of all
> social, cultural and natural phenomena, the interpenetrative nature of past,
> present and future, and the complementary nature of the cognitive, affective,
> physical and spiritual dimensions of the human being. It addresses issues of
> development, equity, peace, social and environmental justice, and environmental
> sustainability. Its scope encompasses the personal, the local, the national and the
> planetary. Congruent with its precepts and principles, its pedagogy is
> experiential, interactive, (student, self) children-centered, democratic, convivial,
> participatory and change-oriented.[385]

Many of these principles are consistent with Danvers, who states similar

principles in regards to the role of education in developing the critically aware.

According to Danvers, the issues are "equally ontological issues as they are

epistemological." To him, action and reflection must endeavor to be equally balanced

and co-effective.[386] Currently in architectural design education, teaching and learning

are seen as "essentially technically skills based rather than cognitive, ontological and

performative processes that are grounded in beliefs, needs and purposes [as with value

systems which are culturally based]." "Technocratic approaches" (as in typical

discussions of architectonics) by themselves in general inevitably fall short as the ideal is

"inherently flawed," and does not take into consideration the relation to the greater picture.[387] What we are looking at is inter-relating and connecting discursive practices in an overall spatially mediating and co-educative model. In this, *ethics* and *epistemology* are always engaged within a single, interchanging and reciprocal framework of thought that is situated (and grasped) contextually in place-oriented space, albeit always in flux and dynamically emerging anew. Places are inevitably human constructs and individually oriented in order to be both mediators and catalysts of new meaning and form.

What seems of primary concern when applying and connecting these points of views to the creation of space (especially architecturally speaking) is that we not lose *particulars* in an over contextualized and generalized system (*universalized*). It is important to bring specificity and particularity in regards to 'emplacement' and to life-spaces that become meaningful and memorable as 'places.' Places in this regard are naturally supportive of interchange of knowledge and meaning. The global cannot outweigh the local or even vice-versa. Enabled individuals in space, as a constituent component, actively construct meaning in their *milieu* and give 'place' its specific meaning.[388] Selby goes on to make the overall systemic, spatial connection to education:

> …This is the nub of my first point. Within the altogether commendable shift towards representing environment as place and, in education, towards place-based environmental education (Traina & Darley Hill, 1995; Orr, 1992, 125-31), there is the ever implicit danger of an either/or mentality which in embracing localism or bioregionalism chooses to ignore the global. A quantum environmental education calls for a both/and approach. In arguing the merits of a pedagogy of place, David Orr (1992, 131) recognizes that place-oriented environmental education could become "inherently parochial and narrowing" and suggests "the study of relationships between places as well." Following Mumford, he sees place as the most immediate of a series of spatial layers. This

is a dangerously mechanistic conception of space. The global is immediately manifest in the local just as the whole is immediately manifest in the part." [389]

According to Danvers, with whom the research position agrees, we recognize multiplicity in ourselves as we are also multifaceted and adapting, both "construed and reconstructive in relation" to changing forces, situations, experiences, circumstances and contexts.[390]

Environmentally oriented disciplines have shared or related concerns, but different emphases and varied ways to get at them that are not integrated or necessarily connected in such a way to productively co-substantiate each other. Current environmental research indicates a significant reasoning for their integration, as each part informs the whole. As the world becomes more complex, cooperation and the critical cross-pollination (sharing of knowledge for a shared concern) in complex environmental concerns becomes more and more crucial. Similarly to the significantly influential views of Orr, the goal is to gain an understanding of connective relations, patterns, and "root causes" of environmental issues. Importantly, understanding these 'root causes' and their interconnectivity have to lead to integrated root solutions. He points out that systemic thinking implies a 'radical' and complete paradigmatic shift of emphasis from individuated concerns (reductivist, singular-minded) to interconnected and co-tutoring communities of global concerns erected at a series of locale domains.[391] Truly understanding the system is to understand one's (corporeal, embodied) place within it as a total environment. [392]

Substantiating Orr's perceptive statement that "all education is [by its nature] environmental," many researchers see the 'root causes' as essentially epistemic in

nature, one rooted in educative practices that separate critical issues into independent modes with little communication between others. To Orr, in *Earth in Mind*, the "ecological crisis [or in this case a total environmental crisis] is a crisis of education." The epistemological framework, rooted in education, sets the conditions for the possibility for certain knowledge(s) to emerge, to dialogically interact, to be put into education, and to be legitimated in action. Intrinsically manifesting the same conditions, environmental practices, from the critical point of view, are linked to human conditions, social patterns, and community interaction, where habits and meanings are mutually learned. All environmental concerns are critically *shared* as a single problem and therefore must be part of social, democratic, and interdisciplinary processes.[393]

Axiology and the Environment – The TALESSI Argument for Values-Awareness

In *Critical Thinking and Interdisciplinarity in Environmental Higher Education: The Case for Epistemological and Values Awareness,* Jones, Palmer, *et al* of the TALESSI Project (*Teaching and Learning at the Environment-Science-Society Interface)*, University of Greenwich, bring to light that the key outcome of "higher education is that students should be able to think critically about the subjects they have studied."[394] Similarly to this research, they begin by defining epistemology as it essentially relates to the environmental subject. Epistemology, as a branch of philosophy, is "concerned with theories about knowledge, or theories of how we can know the world."[395] In this, they also point out that knowledge and its production is "not universal between the disciplines," but that they are diverse (discursive and divergent) and often have "mutually exclusive natures," even when they seem to have the same or

share similar means, modes, methods, or goals.[396] These notions imply that one must have the ability to 'think critically about the nature of knowledge and about the way knowledge is produced and validated," a position that is also strongly argued and defined within general epistemology, critical education studies (as with the critical social sciences), and post-structural analysis.[397] In addition they state that "in environmental education [as it is defined discursively], students should be able to critically [think, know] both within and across the various disciplines that constitute their study program (or areas of concern)." In addition to critically knowing one's own epistemic stance, one must also negotiate and co-substantiate that that stance within frameworks of relations.

To the *Critical Environmentalist* position, these epistemological notions are particularly useful and significant, especially those which constitute a critical knowledge relation (for critically knowing agents) between architecture (environmentally constructive acts), social concerns, and greater environmental concerns as a complex, composite picture. Supportive along these lines, Jones, *et al*, an implication of this notion in the bigger picture is that learning agents must have a critical awareness of the *"epistemological claims"* and *"value-based commitments"* (a key axiological dimension to critical socio-environmental position) that are intrinsic in all knowledge claims or epistemic propositions, and acculturated thought or beliefs (*doxa*, entrained and not always acknowledged upfront) and must be perceptive to how these claims vary between different disciplines (often within the same space of engagement and validation). They promote that this awareness is a prerequisite to critical thinking in environmental education and thus also interdisciplinarity, as fundamental to an integrated understanding

of environmentalism and its collective practice at its multiple levels or facets. Mutuality

of values and critical thinking across disciplines in direct relation to a grounding context

or situation co-enables individuals with others to integrate knowledge-bases produced

within different disciplines, and that these two kinds of awareness are prerequisites for

interdisciplinarity that can thus now begins to address the disparity of environmental

discourse.[398] To these authors as also consistent with this research proposal, the subject

of environmentalism is inclusive of the many disciplines that comprise it and

encompasses the wide range of knowledge bases as discursive parts of a total,

interconnective framework for the forming of meanings and values in relation. However,

meaning, ethics, and values (axiological dimensions) must also be understood as

mutually inclusive and co-substantiated in an interconnective epistemological

framework for thought and action. It is significant here that meanings, values and

validities are formed in the interchange of ideas, de-centered and allowing multi-focal

criticality(its own form objectiveness), as also proposed by such persons as Jürgen

Habermas as fundamental qualities of general hermeneutics and social construction.[399]

In their work, Jones, *et al.,* also argue that questions of epistemology are not

systemically addressed in most environmentally oriented, higher education programs.

From this, they contend that most students (as tomorrow's professionals, scientists, and

educators) believed an authoritative and "widely held common-sense view of science"

that scientific knowledge is reliable (immutable) and proven based on empirical,

objective experience acquired from direct observation and experiment and thus

unquestionable fact, despite varying contexts and subjective ranges of perspectives

toward validation.[400] Even though learners may be made aware of "the uncertain and provisional nature of much environmental science," the authors here maintain that "this constitutes a rather superficial level of critical awareness: one which frames [this nature] more in terms of temporary gaps in our otherwise certain knowledge, rather than one in which knowledge is seen as problematic in any fundamental sense." [401] These epistemologies are often discussed in authoritative terms as being "foundational" or "static," and to this research are often not architectonic or composed of systemic relations of knowing, which makes a true science with respect to Kant).

To Jones *et al*, in dominant analytic Anglo-American philosophical epistemology (also rooted in Western Enlightenment and colonialist ideals), the concern is for what has been ironically termed *realist* approaches, with the mutual goal that they "allow for the possibility of purely objective knowledge; that is, knowledge of external reality which is independent of the knowing subject and their cultural context," therefore necessarily validated by absolute or universal means." Therefore, they assert that current environmental education is more of less an uncritical framework for its knowledge and is more what they term a *crude realism*, that it neither has the rigor of analytic, scientific or objective forms of realism nor the subjective, sociological complexity of modern, critical realism. Within this sometimes quasi-scientific, so-called realist view that often drives and limits the mode of inquiry within its prescribed ranges, there is little room for subjective opinion, qualitative notions, tastes or personal preference, contextual or situational variations, or speculative interpretations (or any combination of such) on the overall truth value of claims, which ironically does not

match the complex actualities of the human or environmental condition. Rather to them, this dominant view can be considered a simplistic or naïve epistemological stance when placed alongside any formally and critically developed epistemological position in relation to our complex issues-at-hand.

From an educational or even operational application point-of-view, this simplistic episteme' sets limiting conditions for thought and thus disables the self-agent (with reference to the critical social sciences) and "prevents students [or agents] from [actually] thinking critically about the production and justification of scientific knowledge claims," even in practice (thought-in-action forming the physical artifact). From a critical position, Jones and Palmer, *et al*, provide three fundamental reasons that such a reductivist perspective is insufficient. First, environmental education, by its very nature is generally "concerned with interactions of natural and social systems which are often complex, non-linear, dynamic, and unpredictable," therefore systemic and complexly nested as also discussed in systems and complexity theory. Second, "environmental science is used to justify decisions which have profound social, economic, and ecological (and others) consequences," which require a certain critical accountability from its acting participants. Finally, that "environmental decision making *takes place* within the context of competing vested interests [affections, desires] and contested social [cultural] and environmental values." [402]

As such, Jones, *et al* counter the dominate paradigm and discuss the significance of *Constructivist* theories associated with *anti-realist* (also *anti-foundational* and *relativist*) groups that rejected these premises and argue that "all knowledge of external

reality is -at least part- necessarily subjective, or socially constructed," and it "inescapably reflects, or is specific to, the historical and cultural conditions under which it is produced – either at the psycho-biographical of individual scientists and/or the structural level of society more generally." [403]   Knowledge and subject are thus mutable and alterable to context and relations within actual reality, as it seen from multi-focal and complicated, intertwining facets. [404]   The authors here point out that these conditions indicate a "significant subjective component" (or even trans-subjective) to knowledge, which is reiterated through current, constructivist-oriented, environmental discourse across multiple disciplines such as anthropology, cultural studies, human geography, political science, and sociology," as well as others in psychology and cogitative sciences, education, ecology, and biology.[405] Such a constructivist position, building upon multiple perspectives at once, requires that environmental education programs address epistemological questions systemically and integrate modes of thought that can better and more cohesively inform their view. This can be seen with the generally over-acculturated context of many architectural schools of thought, wherein a true sustainable response is simply naïve without integration with other disciplinary positions as key components to environmentalism, although not actually readily available or integrated within that distinct body of knowledge. This view is similar to the *Critical Environmentalist* position as it proposes an inclusive, total set of epistemic conditions relating to the socio-environmental life-*place*.

Furthermore and substantial to the proposed position of this research, the authors state that in additional to being "epistemologically problematic," environmental higher

education is also "pervasively *value-laden*," which adds a significant *axiological* (value, meaning, ethics) dimension to the equation. To them, as with the significant of proposing a critical socio-environmentalist framework, the lack of *epistemological awareness*, combined with a lack of *values awareness* is additionally problematic as it indicates an inadequacy of individuals to also analyze the *value-laden nature of knowledge* (as also recognizing the intentional and ethical nature), particularly in the discursive and co-affective nature of environmental discourse. That is, the epistemological dimensions for active knowing agents (knowledge, the origins and the nature of such in relation to our capacities to act) carries with it additional *nested axiological qualities* that should be addressed in an "equally systemic manner as and alongside basic epistemological matters." [406]

They state that the "wide range of 'values' which relate to the environment and/or to society" (e.g. cultural, social, economic, political, ideological, etc.) co-exist in our fundamental forms of knowledge exchange. As discussed also in the critical social sciences and post-structuralist analysis, these values are "explicit in particular [dis]courses," and their productive outcomes. The content and validity of the written body of knowledge, along with artifacts that carry textual or meaning transmitting capacities, reiterate the values "embodied in supposed value-free sciences", and "reside in the aggregate learning context" of environmental higher education." [407] This aggregate learning environment here can also be filled with personal or dominant acculturated biases, as in the Western colonial model that can be considered counter to epistemic inclusion or contextual subjectivity. Such may be considered hegemonic or

formalized as dominant to other forms as in the epistemological framework, cutting

otherwise vital parts form the equation. To them, values are personal and/or directed by

outside social or institutional pressure (or 'disciplined' with respect to Foucault) by its

agents to conform and are evident even within the subtleties of socio-spatial action or

even accepted cultural artifacts, productions, and practices. As highlighted in discourse

or dispositive analysis, the values or meanings are sometimes obvious or even hidden

within multiple layers (intentionally or not), as in documented sources (of authority)

such as "books, articles, and reports as well as in the "immediate institutional" or

culture-political context, abound with endorsements of particular value-laden choices. [408]

To Jones, *et al.,* often "value-laden" outcomes, like epistemological issues, are

presented as an "unproblematic ally derived incontestably from empirical evidence," in

lieu of acknowledging value-biases as subjective intention driving the validity of

outcomes. Philosophically, like in basic logic of language propositions, the authors

present this as "naturalistic fallacy," a basic flaw in reasoning.[409] This issue is also

brought up by such persons as Lorraine Code in *Epistemic Responsibility*, discussing the

issue in similar terms. The S (subject) knows that P (propositional fact), is often justifies

as valid within the factual notions presented and does not generally refer back to the

variation in subject, and their particular changing values and meanings in context.[410] To

these authors and others along these line, values and epistemological issues are

essentially and "systemically embedded" within learning processes and discourse via the

formal and dominant framework, primarily the curricula, and part of a body of beliefs

within 'epistemic' communities," (like singular disciplinary positions) which play a role in the "intrinsic worth" (or not) of central themes, orientations, and emphases.[411]

As also supported by such environmentalists like David Orr, this social education is essentially at the root of the epistemic problem, as well the significant place for establishing potential solutions. We are taught how to think and that thinking carries value judgments, and since we can be equally cruel or benevolent, this can be to our detriment or to our betterment. Hermeneutically, To Jones, *et al.,* learners are "active agents in the construction of values" and not simply "passive consumers of values" emanating from outside /other sources, as they come to the table with "their own sets of personal values" no matter how inchoate, from other systemic value frameworks. Thus learning agents also "cohere as a cultural community' in themselves and "reinforce one another's environmental and other values," whether right or wrong. But also, active learners can become critical aware and negotiate changes in their environmental conditions for knowing through collective enterprise, revisionary transformation, and the establishment of new values and goals. To Jones, *et al.,* once value-laden perspectives are established, the cultural epistemic grouping tends to reinforce and protect their views. Like mob-politics, they become less critical toward "evidence and arguments that are consistent with their existing beliefs", and more critical and less receptive to others which present themselves as 'new' or different to established paradigms.[412] Disciplines or knowledge communities tend to support and protect their dominate paradigm (*procrustean*, almost with violent conformity), keeping themselves safe from interaction that might disprove their position, even if in actually their position is not

viable or is altogether dysfunctional to outside conditions as mentioned in the case of architectural education. To paraphrase a notion presented by Gadamer, we have the predisposition to reiterate practices (even if knowingly wrong), for lack or fear of better ways to do them. Values systems become embedded like 'moral codes' that are seemingly immutable by way of so-called established knowledges that support them. The tendency is that active participants do not question the reality of that knowledge itself as itself as subjectively mutable or alterable in context, where even the basics of so-called empirical evidence carries subjective value in relation to belief systems.[413]

Jones, *et al* conclude that all disciplines intrinsically draw upon the "philosophy and sociology of knowledge" - namely *epistemology* - and upon "environmental philosophy and ethics," aligned systemically and across disciplines.[414] To such environmentalists as David Orr, since all disciplines and their education are inevitably environmental in nature, the need for cross-validation and integration of discursive knowledge along these shared lines becomes ever important. The ideas promoted here not only acknowledge the flaws in the generally reductivist approaches to critically understanding the knowledge (*episteme'*) of any singular disciplinary stance in relation to others, but also place importance on the *axiological* dimensions (meaning, ethics, and values systems) of knowing as intertwined and at once grounded with environmental concerns at multiple levels of engagement and understanding. They promote that this dimension must be accommodated (and cannot be thought as neutral or given) and thought of critically in relation to keeping knowledge informed of its "value-laden possibilities" and by the general nature of 'values' theory. In this, they foster

attentiveness to critical social issues in environmental philosophy and ethics in general in order to "identify commitments top specific environmental values in *texts* [hermeneutics], *practices* [thought-in-action], and *institutions* [validations, authority], as similarly discussed in critical epistemology and the social sciences. [415] It is important as such to be able to consciously navigate and be aware of one's own knowledge and its rootedness in socially constructed meanings and values (a distinct aspect of critical awareness and a move from false consciousness), but also to be able to systematically align one's own knowledge with others in relation to complex environmental conditions for knowledge, inclusive of the variations of axiological aspects as key parts that bring meaning and value to our well-being.

Chapter III Conclusions

Subject and object give a poor approximation of thought. Thinking is neither a line drawn between subject and object nor of one revolving around the other. Rather, thinking takes place in the relationship of territory and earth.
> - Deleuze and Guattari, *What is Philosophy?* [416]

Counter to the dominant Western or colonialist view established in the Enlightenment period, the post-modern (even post-structural) point-of-view presents a picture of the self/subject and its relation to the world as a mutable, interchangeable, and multi-faceted socially, culturally, as well as linguistically (textually, hermeneutically) or epistemically constructed. The 'self' and 'being' is considered intrinsically a system-oriented process of existence, moving within ever-changing, inter- or trans-subjective contexts of thought. To Heidegger's *Dasein*, ("being-in-the-world", "being there/here"), 'being' itself is a process rather than a thing, and thought is critically embodied within this state.[417] Environmental philosophy, a holistic view extending beyond the initial

ranges of this research to the more conceptual ranges of 'deep ecology' or 'transpersonal ecology' (Arne Neass, Warwik Fox, *et al*), discusses this mutable and often continually emerging 'knowing-self' as co-substantive within the greater environment (as with the ever-emergent cosmos, a notion that extends also to the spiritual-self).[418] This research fosters optimistic hope in this, that we are constantly in this co-substantive process of improvement and as a whole, we are inevitably emerging along-side, by way of, and with(in) the systemic 'other,' creating one's self in the continuance of the whole.[419] To philosophers like Deleuze and Guattari, this is an integral, interchanging process of 'becoming other,' of being within (and with-out) the greater environmental as well as cosmological or spiritual ranges.[420] The pessimistic side is that we, as a collective, generally do not move this way by the creative will and intrinsic 'care' of critically aware and enabled, selves. We beat down ourselves along with nature. We often act by way of fear and narcissism when we are pushed (like a knee-jerk or impulse) to respond in a self-survival mode and as such focus inward on singular responses, in lieu of progressively acting before-hand toward co-creative perfection within the greater equation. A critically aware and realized 'self' understands that the destruction of the 'other' is at once the destruction of oneself. But more significantly, that fulfilled self knows that the 'other' is a source for life and creative awareness, worth taking care and loving as oneself. Though a more dramatic change may be forced upon us by the system itself, the way to an intrinsic systemic *synechism* (fulfillment, perfection) is by nature piecemeal, even fragmented and fantastically telluric, constituents of a fluxial co-

affective and interchanging network with humans forming vital connections and meanings with(in) it.[421]

To general environmentalism, as with critical social theory, knowledge of the world is viewed as assemblages of divergent points-of-view, critically assessed for their relation and effectiveness for application in real-world situations, as we see in complex urban sustainability and community development. The critically aware agent who actively participates in the construction of the world must be aware of the primal, referential, or foundational epistemological notions (knowledge/claims/beliefs in direct relation to our *life-place*) that underlie our understanding and action, inclusive of the conditions for thought or beliefs even about epistemology itself. To think 'critically' (based in critical social theory) means to critically evaluate the multiple intrinsic (*a priori*) conditions and also the additional possible avenues for thought to become part of the world. This form of pragmatism, use and meaning as directly associated with occurrences and social action is coupled with inevitable outcomes of axiological 'value judgments' and/or ideological claims in practice (thought-in-action). Critical epistemology is tied into systems theory (primarily social systems and the construction of knowledge) as it promotes evaluation/analysis of the multiple components affecting a given situation. Critical theory along these lines has informed multiple disciplines and social practices engaged in environmental issues, seeing the issues as a total set of conditions wrapped up in our collective understandings. Moreover, it acknowledges the primacy of the knowing human agent in relation to that environment, exemplified as the embodied meaning-making, self-in-the-world (like in Heidegger's *Dasein*, but extended

as "to be is to be meaningful") as the imperative and measure of total success for mutual, greater good. [422]

For architectural discourse however, the concern shifts to how we also 'articulate' and change the nature of the world into an useful abstractions (with respect to Wittgenstein) and 'construct knowledge' into physically built form that inevitably becomes part of that episteme' or that new truncated way of knowing the world. In architecture, the choice of subject-matter in correspondence with the greater environmental domain becomes of primary concern. The dominant mode of thought, socially driven may not match the concerns of the world at large, an epistemology driven on a certain (*beaux arts*) aesthetics dualistically disconnected from the world (another concept inherited form the Enlightenment). One view in this could be that we are thus devastating the 'real' order, substituting instead our own aberrations. To Lefebvre, this destruction is in essence the destruction of the original nature and its impetus for creation and meaning at a very root level, thus unwittingly leading to our own destruction. However, another view is that what we produce, as ourselves products of nature, *IS* the same nature, as we are also hardwired by nature to articulate and make our inhabited world, and that which we produce is therefore still nature. Either way, it is still in effect a change of nature (and our knowledge of it as source for knowledge) that changes us and our way of being, and that is the ultimate concern in a critical social view toward environmentalism. Therefore architecture mandates a similar adaptive quality to its epistemology and its physical artifacts in an equally changing social sphere.) Since

there are also no collective agreements on environmental issues, the fragmented

discourse with little reconciliation between its varied informants.

These collective notions brought forth in these environmental positions being to

light significant aspects of ourselves in critical relation to our environmental conditions:

a summate of critical self awareness, epistemology, communities of knowledge, systems,

axiology (values, ethics, and meanings), as well as our co-operational understandings

and applications in a single catalyzing spatial condition, the greater environmental *life-*

place. Gradual fine-tuning of the constituents for our understanding and application

within this reciprocal complexity, depending on place and time, will hopefully yield

transcending and cascading effects, while also being checked (ethically intrinsic and co-

affective with respect to Spinoza) throughout the system.

CHAPTER IV:

EMERGING *CRITICAL ENVIRONMENTALIST* FRAMEWORK

OF KNOWLEDGE FOR ARCHITECTURE

Merging Critical Social Sciences and Environmentalism Towards the

Epistemological Framework of *Critical Environmentalism*

Is the study of the built environment a subject in its own right or is it simply the 'meeting ground for a number of disciplines'? Should 'environmental studies' be a loose faculty arrangement in the university, with architecture as one of a number of 'related disciplines' grouped around a problem area? Or is there some sense in which the study of built environment can arise naturally from the activity of architecture in such a way as to reconstitute and perpetually renew the intellectual bases on which environmental action and design must be founded?
     - Bill Hillier and Adrian Leaman, *"Architecture as a Discipline"* [423]

The ideological positions for *Critical Environmentalism* are a distilled composite

within a common theoretical theme across multiple disciplinary domains revolving about

environmental concerns (inclusive of social, ecological. philosophical, et al). For the

purposes of constructing a theoretical base for this position, *Critical Environmentalism*

stems out of the *critical social sciences* (with respect to Fay, *critical social theory*) and

its inherent bearing in hermeneutic-phenomenological method and social dialogical

processes, while environmentalism supplies the common ground and spatio-material

substance (catalyst) for thought and our reasons (Gadamer's *techne'*) to bring ideas

together and collectively produce.[424] Its concepts amalgamate practical critical

hermeneutics, social praxis, phenomenological embodiment, autopoiesis and complexity,

critical regionalism, place-studies, and ethics.[425] Pragmatically, its framework also

interrelates (intersects) and negotiates epistemic positions across wide ranging

environmental education, community and place-making, deep ecology, social

constructivist theory, and socio-cultural praxis as a way of gaining direct access and viability (distilling the best parts and associating together like a box-of-conceptual-tools from both the human condition and the greater environment) for this critical, socio-environmentalist thought-in-action within a total *life-place*.

Because of these key components (outlined below), the *Critical Environmentalist* framework *'emplaces'* the *'embodied self-in-the-world'* (a reciprocating environmental domain as conditions for knowing, acting, and creatively making) as the fundamental and accountable *'agency'* for knowledge construction, operative action, idea manifesting, and the medium for interchange and communal legitimacy. Critical social theory, and its mode of thinking, involves systematically organizing complex, multi-dimensional factors. In the case of this research, it plays a substantiating role for architecture in the total environment to produce corresponding solutions by supplying continued and dynamic vitality to our decision making processes (and creative place-making endeavors) and being reciprocally and critically accountable within the community and world we engage.[426] Through vital interdisciplinary connections, the goal is to build a significant and applicable, *critical environmentalist* epistemological framework for architectural discourse, one that also reciprocally and vitally links architecture with others in the greater domain. From architectural discourse, we also have the added feature of creative and productive action that must be co-substantiating, as architecture helps form our vital meanings in place and our spatio-cultural experiences. With so many influencing forces at hand, the research proposes that critical environmentalism promotes an inclusive, unifying epistemological framework,

encompassing and interconnecting multiple disciplines and polemic philosophies that can significantly inform architectural education and thus reciprocally foster an increased vitality along common threads within the greater domain. By bringing domains together, the research advances both critical theory and environmental research through architectural creation and the construction of the built socio-environment as co-substantive. This unification within this proposed framework fosters communally oriented, co-enabling, and co-nurturing cross-pollination of knowledge that cultivates increased vitality for all vested stakeholders in our shared environmental *life-place.* The two sides of the dialogic, socio-environmental equation are overviewed below.

Critical Social Considerations for Environmental Practice
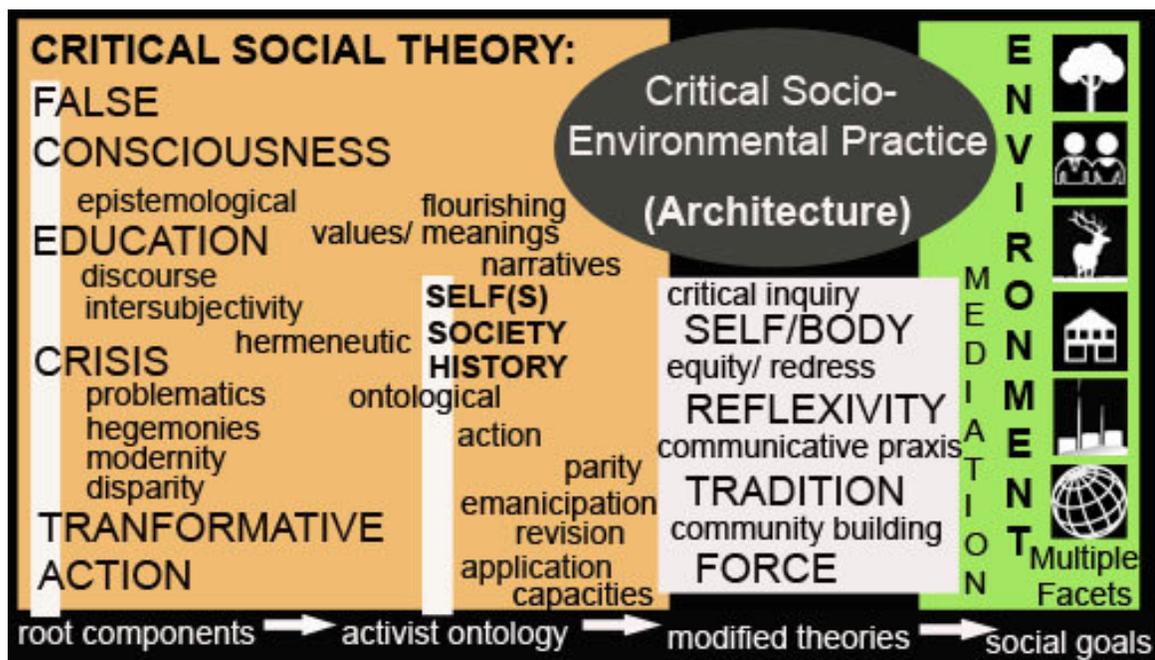

Figure 4.1: Critical Social Theory Components in Relation to Environmental Facets. [427]

From the starting point of the ***Critical Social Sciences*** (*Critical Social Theory*), this research distills a preliminary set of conceptual tools (Figure 4.1) for architectural

endeavors that promote effective continuous and creative social engagement within complexities of human-oriented environments based on critical, hermeneutic approaches which seeks a 'fusion of horizons' along common goals (with respect to Gadamer). Since epistemic systems exist mentally and spatially as meaningful constructions of social interactions, an interactive dialogic approach attempts to view contexts from many viewpoints in order to correspondingly promote a multitude of intrinsic affections (with respect to Spinoza) and an increased prospect of derived (deductive) objectivity in lieu of presupposed (inductive) reductivist, proxy, or universalistic approaches. It promotes a synthesis of communicative methodologies that strengthen the central role of architects in the systemically participatory and interdisciplinary, social environment.

Integration of common knowledge bases and distinct interdisciplinary methodologies can address the discursive concerns and their correlation with application in the community, thus developing a positive and meaningful effect. Reciprocally, the positive transformation of the structural framework as the medium for the communicative exchange of knowledge in-turn transforms the corresponding social structure and thus critical human consciousness where knowledge constructions and creative interventions and productions can occur. This notion fosters design based within the richly inclusive pallet of understanding that an inter-connective epistemological framework can provide. For architectural endeavors, as with other creative disciplines, this framework begins to build an inclusive (expanding) picture of how we know or understand the world as a direct relation to the ways we interact and creatively manifest our ideas collectively within it. The *Critical Environmentalist* position *emplaces* creative architectural

endeavors within a framework of knowledge that progressively and critically promotes betterment of life through co-enabled (actualized) identities, *embodied thought-in-place*, vital connectedness, and a strengthened reciprocating relation within and of the shared environment as a total *life-place*.

As illustrated in our relational concept diagram (Figure 4.1), critical social theory establishes distinct epistemological features and conceptual ranges. Significant for this research, formal epistemology (the study of knowledge as subject itself) can be grounded, realigned, and understood here primarily through focus on its *agential* components –that is, through the knowing *self* and its actions in direct relation to the world as the critical components of transformation and meaning-making. Raised through a modified *activist ontology* (Fay), the basic root components of a Marxist-based critical theory (false consciousness, education, crises, transformative action) are fundamentally negotiated through its primary component - the *agent-self(s)* (knowing, acting, and effective stakeholder) with its active, intellectual relationship within the socio-environmental community (its *habitus*, with also here respect to Bourdieu)[428] and its conscious responsive action toward varying levels of emancipation from crises (liberation of the self from false consciousness in relation). The agent-self as stakeholder is ultimately the facilitator of knowledge, meaning, and value, as well as solely responsible for ethical action, communicative praxis, reflexivity, and transformative force. Since agents do not act alone, not only must we identify the individuated agent (and their understandings in directly relation as the initial root of the crisis itself), we must also acknowledge the multiplicity of agents, each with differing

perspective versions of the environment and differing understandings, intentions, and desires requiring mediation and reflexivity. It is also noted here that the notion of agency can be raised to collective units, as in formal groups, associations, institutions, organizations, disciplines, etc., thought of in the singular sense, but composed of many along the same epistemic lines (as in intrinsically *monadic,* carrying the reciprocal or mutual correspondence). The agent here continually emerges along with the forming framework (cosmos, world, environment, city, society, community, meanings, knowledge, etc.). Here, we also bring forth that knowledge is formed within this as *socio-communally* and *systemically* (as systems of knowledges and meanings, but also formed in relation systemically to the Real, environment) and thus is never neutral, but in actuality, dynamic and engorged *axiologically* – that is, filled with multiple levels of meanings, ethics, and values. These meanings and values are placed hand-in-hand with authenticity of experiences, communal knowledge, and one's own self-consciousness and identity as substantiated within its relation to the whole. Here, we also distill that the agent-self has to be authentically, critically, knowingly (consciously aware), and actively engaged in *transforming* that system (along with its education, meanings, and values) as directly and historically rooted in the *problem* or the *crisis*. It is in our communities or social associations where we are educated to act in a manner accepted by the dominant, normative practices, inclusive of both environmentally positive and negative aspects. Only through engagement and reflexive mediation between a multitude of facets does criticality and meaning emerge (through points of conflict and comparison between divergent positions, problems, and ethical choices) and thus

through this, the self can actualize (find authentic meaning and identity) and emerge as co-substantial, intellectually aware, and thus, alive.

In addition, critical social theory (as with post-structuralist discourse analysis or dispositive analysis) acknowledges the cyclic problem of hegemonic belief systems, acculturated normative practices, and socio-spatial productions (structured spatial conditions with respect to Lefebvre) manifesting epistemological positions (textually, rooted in education, discourse, and its dispositives) and in-turn setting the conditions for thought and action. In this, we may overlook many social practices that may have been forgotten, dominated, set aside, or never considered in relation to the crises because of an overriding state of knowing. Quite often these dominant and 'conditioning' forms of knowledge prevent (or disempowered, disables) critical self-awareness that must occur at many scales of interplay (all on the table with the same rules of play) and thus prevent authentic revision from occurring in all facets (across the board). Knowledge itself can make us ignorant or veiled from the issues. However, we also acknowledge that education and social knowledge in general is key to epistemological transfer, critical awareness and subsequent emancipation. One has to 'know' with what one is epistemically bound - what one incorporates (with all its baggage) to measure and validate their knowing and being - with how knowledge can be put into effective action in relation to others, before being able to proceed critically. With this epistemic engagement is the essence of self-emancipation, transformation, and critical awareness. Only by knowing one's self in relation to the 'other', to each other, and to the common crises, to know where meaning and self are derived as a part of the emergent knowing-

being (living) with others, can one become emancipated (or liberated) and fully enabled. So, an active and engaged arrangement (like in Fay's "activist ontology", both in knowledge and transformative action) between the self and the environment can be considered an essential part, if not the most essential aspect, to one's own conditions, authenticity, identity, and self well-being. This reiterates the old adage to "know one's self," but also to know how one's self is co-substantiated in relation to greater terms of reference - the 'other' (inclusive of persons, society, community, ecology, nature, cosmos, spirit, etc., all environmental components at varying scales). Such is the nature of the critical self and its emergent process with(in) society and our greater environment. This is essential to the design of our *life-place* if it is to have meaning and vitality to the human condition and its relation to the whole.

Particularly significant for this research, we must acknowledge that in urban and community developments, the active agents involved (as stakeholders) and the dynamic relationships of their knowledges and actions compose the very nature of the *life-place*. From this, we can also discuss the varying levels of epistemological engagement and social praxis in need of rapprochement to thus build upon hermeneutic mediation between these multiple positions toward common goals and impetuses - that is, the common environmental crisis upon which meaning and being are best composed. To Habermas, this involves de-centering knowledge within hermeneutic-constructive, "communicative action" and social praxis toward common or shared goals.[429]

Critical theory is operational and intended for application in social change, but also by its nature of inquiry (hermeneutic cycle) leans to perpetual inquiry, change ,

action, application, and subsequent reentry into the crisis, always re-looking at the issues-at-hand at given moments, contexts, dynamics, or epochs of change. Here we also acknowledge the need to integrate and mediate the varying knowledges through each cycle as forces in the co-construction of our *life-places* (at the multiple levels proposed with this research), as exemplified in our urban settings. Our urban and communal developments work most effectively when their inhabitants take ownership and play vital roles in the co-formation of their societies and communities, as with the transformation of the environment (for better or worse, albeit better is most preferred).

As social creatures, we tend to work most productively together and our knowledges become significantly broadened by our interplay. Significant to design, this can also build an extraordinary palette upon which to graft creative solutions that are formed systemically in direct relation to the problem. To paraphrase a Charles Eames saying, 'only when engaged with the multiplicities of the problem does creativity and innovation actually take hold,' brings to light that creative purpose is best when engaged with the real and all its multiplicities. Knowing and responding to this nature in critical ways in relation to design or revision is crucial to the human condition as well as negotiating our relation to the greater socio-environmental domain. When practiced by those seeking life and co-existence, the inevitable must be also life-producing and life-enhancing for all, as well as enabling the universal human spirit. The goal is to create life-places that enable its agent-inhabitants to do so for themselves at its many levels in order to produce an equally complex set, emulating the *continuance* of self, community,

society, nature, the cosmos, and the greater aspects of life-itself (with respect to

Peirce).[430]

From the critical social theory position we get distinct methodological tools for

rapprochement and critically corresponding the multiplicities of agents, their

knowledges, and their capacities to act (agency) toward varying levels of crisis and in

collective, integrative, and systematic ways. In summate, we bring forth the need to

acknowledge the key critical components of: *Agents and Agency* (knowing self(s) with

capacities to act effectively); *Community* (socio-communal associations in relation

forming of knowledge, education, traditions, history, culture, and praxis); *Systems of

knowledge* (corresponding, reciprocal epistemes' and the acknowledgement that every

part and parcel (discourse, dispositives, artifacts) has the capacity to carry usable and

manifesting meanings in direct correspondence with the greater, multifaceted

environment; *Axiological* (how meanings, values, and ethical positions, are necessary to

our knowledge and actions in the formation of our *life-place*); and *Co- or Inter-

operational* (that all parts are dynamically productive and active in applicative relation,

never acting in a vacuum, but like nested machines inside of other co-dependant

machines acting together systemic with connective rationales and common goals/*telos*).

Environmental Grounding for Critical Social Practice

From ***Environmental Discourse,*** we find that there also exist key

epistemological components, also essentially rooted in the self and its inherent

epistemological considerations. However here, this notion is raised to a distinct

environmental knowledge with an immanently associated ethic, 'grounded' in the very-

real of natural occurrences within a complex and inclusive *life-place*. Key components

emerge that are consistent with critical social theory and its negotiation of the agent-self,

education, acknowledgment of the crisis, and social praxis as a way to begin revision.

However, the environment offers a little more to the picture as it is even more inclusive

and immanent to our conditions for knowing and being.
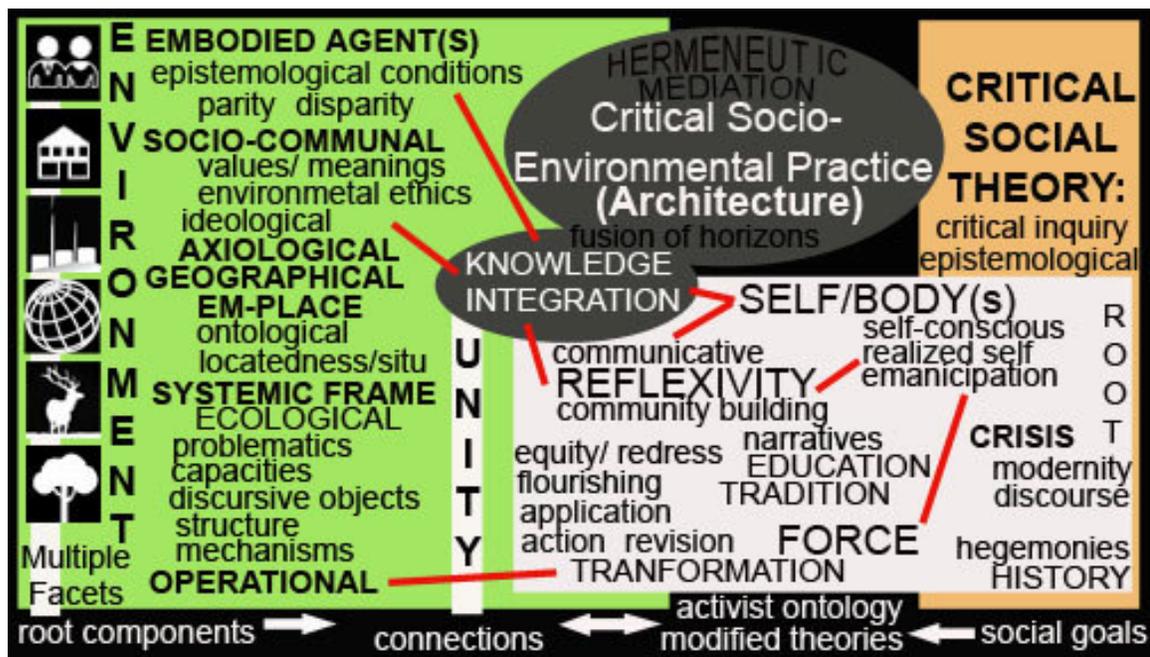
Figure 4.2: Composite Components- Aligning Concepts between Environmental
  Discourse and Critical Social Theory.

From the composite of ideological positions discussed in both critical social

theory and environmental discourse, we can distill and compile common fundamental

concepts which may be used as a framework of conceptual 'connectors' (fundamental

jointures or structural intersections) in this discourse (Figure 4.2). The formation is

essentially epistemic, an inter-connective knowledge framework across multiple

disciplines as distinctly identified within critical social theory and environmental

discourse alike that sets the conditions and critically links thought and practice around the environmental subject.[431]

As with Necdet Teymur, in his *Environmental Discourse*, we must endeavor to locate the whole lay of the land or terrain, to 'ground the subject' (as also with Preston, Code, *et al*) within its 'proper context' as a way to bring the discursive array of knowledges to bear on the most vital part and at as many critical (and effective) intersections as possible.[432] Architectural endeavors can be better informed by a greater domain of knowledge outside or not indigenous to its record of knowledge - its episteme can and must be broadened and better *placed* to include more facets and connections within a greater domain. How we know (and experience) the environment is directly interwoven with how we act with(in) it, albeit in multivariate and discursive ways. We acknowledge that the environment is a diverse, disparate field of experiences, immediately socio-communal in its knowledge forming, but also environmentally bound with the shared features of a distinctly physical ecological and geographical reality. Our knowledges (manifested in many ways, represented in our discourse and dispositive) are also representative units of a diverse and complex environment, corresponding to our social negotiations.

Corresponding with critical social theory, there is significant acknowledgment of the *agent-self (*and its capacities, agency) as the key knowing, aware, believing, reasoning, responsible, and accountable component of action. The agent-self (and there are many, communally) both embodies the environment as a living ecological and biological being that is at the same time *emplaced* with(in) its *life-place* as determinant

of its *situational* or contextual knowing and thus acting. Preston and Code, *et al* (from

our environmental section) bring to light that our experiences as well as knowledges

(epistemologies) are "grounded" in environmental conditions (place, geology,

geography, ecological, etc), but also that they are grounded in socio-communal practices,

cultural traditions, and interacting ways-of-knowing (also conditioned and grounded by

the same). These notions negotiate the reflexive understanding of primacy of the natural

eco-environmental and geographically located self and the critically aware-self of social

theory within a very real world and how these are formed at multiple levels (agentially,

socio-communally, systemically). This also brings to light that our beliefs (even

spirituality) and identities are formed within environmental conditions and our

experiential relations, particularly if they are positively considered co-substantial. These

ideas, and their grounding, can be further expanded through such conceptual ranges as

proposed within the philosophies of "deep ecology" and 'transpersonal ecology" (Arne

Naess, Warwick Fox, *et al*), which discuss the self-evident co-substantiation and

inseparability of the knowing and fulfilled agent as critical to our environmental

experience.[433] As such, for all these it can be simply said that 'well-being is natural.'

Van Buren, in his *Critical Environmental Hermeneutics*, acknowledges in case

study the disciplinary subject-matter revolving around environmental issues as multi-

dimensional (multi-focal, interpreted from many views) that can be complexly

discurvive and even conflicting. Thus to understand any given problem, there is need to

facilitate communal understandings and multi-methodological unions. For a unity of

understanding of the discursive nature of environment to form (a holistic image of the

problem), we must endeavor to foster a *hermeneutic* 'fusion of horizons' (with respect to Gadamer) between co-affective knowledges, experiences, interpretive understandings, and applicative methodologies, etc. The categorical positions along common points or shared impetuses in place, between subject matter, disciplinary points of view, and invested stakeholders (multilevel and inclusive of natural agents), present points of engagement (for meaning, value and action) that can better our understanding of the complexities involved and thus lead toward common applicative lines. This idea promotes a conversational dialogic between varying interpretations with(in) the shared environmental place.

Because of the multiplicity of intersections between where and how we collectively inhabit the greater environment, all eco-systems have been affected in some way by our continued urbanity and so-call civilized development (be it directly or unwittingly thru the movement of materials, energy use, daily products, etc.). In turn, mediated awareness and reciprocity between features-of-effect can endeavor to understand each other's viewpoints and thus lessen conflict and impact, while also bettering human conditions between each other within(in) the environment (directly inhabited or not) at multiple levels. The worst of damages particularly occur when the components are in conflict, disparity, and miscommunication, while balance, conversation, and parity lead toward harmony and well-being.

Significantly, our meanings and our very identity as living beings form within this complicated, phenomenologically hermeneutic dialogic arrangement, sliding between many knowing beings or agents, our varying levels of socially constructed (and

structuring) practices, and our shared environment as both conditioning and interdependent. As such, we also gain access to a dynamic *life-place* that is engaged hermeneutically and dialogically, as in our *critical environmental hermeneutics*, as a mainstay for developing co-effective stakeholder strategies for designing in urban and community settings, with their many discursive and co-affective intersections between its varying agencies with(in) the greater environmental domain. These notions can set a course for designing our world consciously and critically along the same lines.

Kristoffer Lundholm in conversation, states that he and Renaud "built the *Five Elements Guide* around the questions of what sort of things that would be good to take into account when engaging individuals [multiple agents] to act sustainably."[434] To Lundholm, discussing the proposed *Critical Environmentalist* framework in comparison, they similarly aim at the "same thing" (sustainability or environmental redress) and have connective concepts that "look quite similar, but [yours] with the [more specific] purpose of helping architects and designers [as built- environment designers and community leaders or advocates] to better address sustainability" in their creative, active endeavors.[435] For instance, the agent component of this research aligns with their notions to consciously "understand yourself and what you want to achieve" in an effective and aware relation to the environment. Lundholm adds that the key connective features are "the systems approach that stresses the importance of taking all aspects into consideration, including your own intention[s], the object (or person) you're trying to change, the context in which that object is situated, the possible routes to change and the different things that you can actually do to make change happen."[436] Since there can be

no separation from environmental issues and how we as agents dwell socially and communally with(in) it (and epistemologically, how we know it), both the frameworks engage the 'self' as the key intentional and knowing agent in order to then engage the issues.   This would include architects as advocates or leaders in our communities, subject to the same criteria as others, as they need to know how to better themselves for effective engagement in order to be able to take charge and thus to strategically make better across the greater and complex environmental field (aware of the architectonic, systemic at multiple levels and be able to act responsibly within it for the betterment of others). Lundholm adds that "the other elements are there to help you align those intentions with your interactions with the thing and person you want to influence, so that you can more successfully achieve the change you want to achieve," (as similar to the dialogic described above) designed for the aligned action of its agents.[437] As summate of their position, effective approaches to sustainability and environmental betterment must be formed holistically as a strategic set of goals at multiple, categorical levels of engagement.

To famed environmentalist David Orr, we are in a 'crisis of knowledge' (an epistemological assertion), and as such, we must seek 'root causes', epistemologically and heuristically, which reside in education - *how* we learn to know our world. As in the *critical social sciences*, there is significance here on education as key to transformative action and the making of an aware-self, or not. This can be seen in how the architectural discipline engages (or not) the environment, as represented in its discourses and its physical cultural artifacts which indicate a typically fragmented and disparate nature

from each other, the socio-environmental complexities, and the actual problems-at-hand. The result is a sort of false consciousness, rooted in education (with respect to Marx and Fay), disengaged from the actuality and disabled from active participation in the whole picture. To David Orr, we must learn to think holistically and seek vital interconnectivity, being informed between varying facets by experts from wide ranges of knowledge; but we must also understand how these facets physically operate and form effectually together in direct relation to environmental concerns. To him, 'all education is environmental' and as such habits and practices (for better or worse) are learned and enforced socially. He places importance on "environmental literacy" (also "ecological literacy"), actually understanding *how* environmental facets work at its many levels of engagement, as key to addressing issues.[438] To environmental education, the problems often also rest in grass-roots education and social action. These approaches to the environment are also primarily community driven, leading toward applicative developmental action.[439] To the *Critical Environmentalist* position in relation, this eco-environmental literacy also has to be integrated with socio-cultural literacy, and how it relates to holistic environmental views, subsequent actions, and the making of significant meanings and identities. Thus understanding effective social praxis is key to environmental action with others in communion and agreement to the crisis, to understand it together as collectively effective. It is immanently important for us to understand both our social practices and the systemic nature of the crises and in-turn through our rationale develop ways to understand them in relation. Taken without parity

with the other, either side of the equation can inevitably promote a detached, singular point-of-view that overrides the other in detriment to the holistic picture.

In similar fashion to Teymur's *Environmental Discourse*, Julian Hanson of the UCL Bartlett School and co-author with William Hillier on *The Social Logic of Space,* stated in a personal interview on the subject that architecture is always in relation to social settings, "they are not above it, [however] there is a [ideological] struggle."[440] To Hanson, "we face a professional crisis," in relation to both environmental issues and the social setting, rooted in how architects learn and become rooted in an ideology (with its own sets of concerns and validations) that does not match the primarily social issues-at-hand (both in practice and spatial form). To her, "if you read anything at all in general architectural education and anyone who reads what we call learning architecture," we learn about the general ideology we all know and have all become acculturated. To her, conversations (as also with discourse) here can be predicted to generally discuss architecture *per se* (formalistic, aesthetic, historic, physical qualities) and not its other functions or roles as primary parts of social and spatial settings.[441] There is a general consensus emerging in the field that the epistemic framework, as represented in its discourse, is outdated in regard to social setting and critical social studies, much less to the broad array of disparate discourse involved in environmental subject in relation to our social habits and human condition. There is need to re-substantiate or refresh architectural agenda at various times in relation to the modern state and the current social or environmental crises (as also originally stated in Modernist discourse and its break from traditional views). As a regenerative view, formal general or even critical

education is bound to its role in teaching overall social issues to the awareness and betterment for the community and the environment, rooted in distinct cultural settings, looking for options within the social framework for participatory action and transformative praxis. In the social productions of large projects, like the ghettos or social housing projects, Hanson (as with also Hillier) stated that these issues do not necessarily need to "compete with each other," as we can "learn to cope" and to be inclusive in our constructive approaches.[442]

To address issues at a root level, environmental discourse fosters alternative approaches to socio-communal education and the transfer of environmental knowledge toward co-operational or multi-methodological application. Many of these notions revolve around 'radical' or 'constructivist' pedagogies that attempt to interconnect knowledges to provide a critical framework of check and accountability from many angles toward co-constructive practices. Since knowledge is 'grounded' in the physical, environmental operators of experience, we are concerned with how these facets co-form and are co-effective together in holistic ways. Since knowledge is also formed socially, we are concerned with the structure of social interaction itself in relation to this *groundedness*, both in higher education and in applicative developmental settings composed of multiple agents or actors or stakeholders. Here we are also concerned with not just environmentalist, co-affective strategies in how knowledge and the built environment are co-constructed, but also how meanings, values, and ethics are formed in conjunction. The *TALESSI* argument for increased values-awareness in higher environmental education brings into focus significant *axiological* dimensions and

understandings of *how* knowledge and differing interpretations of value and meanings play their roles in engaging environmental issues. The multi-dimensional picture of our greater domain in its varying complexities becomes more illuminated when the focus can be refined multiplicatively and together from varying perspectives. And from this, a corresponding set of meanings, values, and thus ethics essentially forms through mutual correspondence of a shared and co-constructed condition. However in these views, distinct formal strategies along these lines must be developed in relation.

In a conversation with environmental educator Phillip Payne, he states that "perhaps the 'biggest' current issue in environmental education research [as also with modes of practice] is the question of congruence between the purposes, methods and outcomes of research," as we see also with their outcomes or modes of validation.[443] He references Robottom and Hart's *Research in Environmental Education- Engaging the Debate,* where they "outline a framework of different ideologies and epistemologies relevant to methodological questions," and propose new alternatives and preferred methods and cross-referencing approaches for inclusion of multiple views.[444] In this work, Robottom and Hart examine the ontological, epistemological, and methodological assumptions in environmental education research, that views or even beliefs (*doxa*) of reality and knowledge are embedded in competing and even alternative research paradigms. To Robottom and Hart, an appropriate form of environmental inquiry is one that "includes consideration of both human consciousness and political action and thus can answer moral and social questions about educational programs which the dominant form [of research paradigm] cannot. It is one which is more consistent with the *eco-*

philosophical view – which encourages individuals [raising the participant agent] to be autonomous, independent critical and creative thinkers, taking responsibility for their own actions and participating in the social and political reconstructions required to deal intelligently with social/environmental issues within mutually interdependent and evolving social situations."[445]

Referenced again in the work of Joy Palmer, in *Environmental Education in the 21st Century Theory, Practice, Progress and Promise*, Robottom and Hart "suggests that there is a need to engage the debate about the relative adequacy of different (competing) [or divergent] approaches to research [and its differing methodologies] in environmental education, so that their respective epistemologies, political theories and assumptions can be made explicit and critically appraised," as brought the same table and discussed in terms of their methodological approaches in conjunction (i.e. feminism, hermeneutic, narrative, qualitative, quantitative, case-studies, interpretive histories, etc.). As supportive of this framework, Palmer goes on to state that this discussion should be also raised to include aesthetic, cultural, religious, personal, intimate, and even spiritual beliefs, as all are perceptively (and conceptually) divergent and co-effective in regard to how the environment is understood.[446] Thus again the need to understand critical hermeneutic approaches for epistemic mediation and fusion between many varying views within the plane of horizon comes to light.

These notions support the view put forth earlier in this research by Van Buren in his discussion of *critical environmental hermeneutics*. Here is fostered a framework of inclusionary knowledge that has to be critically cross-referenced to holistically inform

the multifaceted issues-at-hand, while also establishing common grounds for co-effective application and reflective practice. Adrian Snodgrass, professor at the *Centre for Cultural Research* at the University of Western Sydney, in *Hermeneutics and the Application of Design Rules, Gadamer, Action & Reason*, acknowledges the necessary hermeneutic relation between the epistemological concepts of *thought* and *practice*, as well as the varying ways these play in their multiplicities within and co-effective with the context of design application. He discusses hermeneutics along similar lines and extends "its application to knowledge production and cross-cultural understanding" in relation to architectural design. Since knowledge is both framed and formed in social settings and varies according to the particular context of application, so does design.[447] The hermeneutic approach builds communal understanding of multiple environmental interpretations (multiple agents with multiple value systems) into a shared condition for knowledge. A co-tutoring framework between agents occurs; we socially learn the 'other' as part of an overall reciprocal epistemological system leading toward collective application.

In addition to the concepts covered previously, this research also finds distinct supportive components for this proposed *Critical environmentalism* position for architectural discourse, as described in general environmental discourse with Enrique Leff (*United Nations Environmental Programme, UNEP*) in linking the discussion of ethics and criticality with both epistemological and ontological considerations (rooted in Modernist discourse) to developmental practices:

> 'Critical environmentalism' [emphasis added] unveils the ideologies that
> support the dominant unsustainable rationality and orients actions towards

[environmental] sustainability in a field of theoretical confrontations and power relations in knowledge. Philosophical categories and theoretical concepts descend from the heights of metaphysical and scientific thought and are grounded in the field of political struggles. The subject, ethnicity, identity and difference are not only epistemological terminology to become the jargon of cultural politics. The many terms which revolve around environmental discussions acquire new meanings under discursive strategies where they become 'rights', [as] they are embodied by social actors and movements for the re-appropriation of nature [at varying levels of interpretation and use]. [448]

With these power relationships between knowledges manifesting in multiples ways toward the construction of urban fabrics and community settings, as comprised of the greatest number and complexity of environmentally effective intersections, comes the need for multi-methodological approaches that can negotiate across modes toward turning this discursiveness into realized and productive action in a holistic or ecumenical sense.

Leff brings to mind that "epistemological strategies," as well as hermeneutical, mediating responses between the multifaceted ways the environment is formed, known, and acted upon, and can transgress the meanings of words [inclusively in this, discourses, texts, artifacts, *et al* –all things with the capacity to carry human-meaning and manifested in physical formation of our total *life-place*], "generating new senses that orient social action guided by environmental rationality towards sustainability."[449] To him, a novel, multi-methodological "approach on the hybridization of the material, the textual and the symbolic develops in the ontological and epistemological arena, new relations are emerging between cognitive processes and cultural identities in the field of socio-environmental conflicts."[450] The hybrid position between socio-environmental praxis and epistemological formation, brings a framework of critical thought and action

together along connecting and grounding jointures, but also can begin to reveal points of dis-association, dysfunction, privileging, and dominance over the multifaceted, inclusive nature of environmental concerns. Placing all on the table in critical reflection endeavors to bring to light the true nature of relations that play in the co-construction of our *life-place.* The meanings that can be drawn from this also have great potential to bring co-substantiating value, vitality, and an extended palette to our creative endeavors for architecture, particularly as *emplaced* within these essential intersections and *embodying* the framework of thought forming our urban and community settings.

From this composite *environmentalist* position, we find correspondence with the *critical social sciences* through the understanding and identification of significant, share conceptual components. In addition, environmental discourse indicates that a broad myriad of epistemological positions (as with multiple frameworks, ideologies, representations, axiologies, disciplines, operations, etc.) emerge discursively around the multitude of environmental considerations, and as such, reflect the complicated and systemic nature of understanding the environmental crises we face. Since the environment is diverse, our knowledge of it at varying levels is discursive and complicated. To get a grasp of it in our urban settings, we are mandated to be able to development manageable categories to help us understand it and to build methodological intersections towards it. A series of categorical positions, each with its own sets of methodologies (working in relation to others), can be established that correspond to epistemological issues for architecture that can be identified along environmental lines (see below, Table 4.1).

The recurrent categories, corresponding with those of the *critical social sciences*, are the *agential self*, its *communal understandings* (inclusive of contextual place, culture, beliefs, social issues, economies, etc.), the *systemization of knowledges* in relation (inclusive of the interrelations between social constructs and their direct effectual correspondence within the multifaceted nature of the greater environment itself), an *axiological awareness* (the formation of meanings, values, and ethics and their roles in relation), and our *inter-operational* and interdependent transformative actions (*how* we actually co-construct our *life-place*). In this, the recurrent themes are to 'think systemically' and 'holistically' in regard to forming self, community, meanings and values, while also developing relational strategies to resolve systemic conflict to foster in consilience (epistemic unity) and environmental well-being. The concept and action of co-substantiating *reciprocity* fosters modes of productive interchange and hermeneutic dialog, which in in-turn builds intrinsic foundations for negotionating multiple ethical positions in conjunction, intellectual exegesis and subsequent synthesis of varying categorical schemas leading to new forms and understandings of knowledges, and ever-emergent forms of caring (empathetic)and creative capacities, in fact in their greatest forms. If reciprocity between various and often conflicting facets of our socio-environment, between culture and nature, between subject and object, between our self(s) and spirit and the greater world, and even between each other at very personal levels seem to be the most difficult challenges and at the very root of our many crises, then this form of reciprocity itself must be the greatest and most worthy of intellectual endeavors.

The Composite Epistemic Scaffold of *Critical Environmentalism*

Table 4.1: Matrix Describing the Connective Components of the '*Critical Environmentalist*' Framework as Coupled Within the Basic Features of the Critical Social Sciences and Environmental Discourse

CRITICAL SOCIO-CULTURAL ENVIRONMENT	COMPOSITE CRITICAL ENVIRONMENTALIST COMPONENT	IMMANENT NATURAL ENVIRONMENT
Socio-cultural self embodies logical, authentic, rational awareness in relation to others and to meaningful *life-place*.	**SELF-KNOWING/ KNOWING SELF/AGENT/SPIRIT** IS CRITICALLY ENABLED AS ACTIVE, EMBODIED, EMPLACED, AND CO-ACCOUNTABLE AGENT	Primitive, natural self embodies natural world and is physically emplaced and inter-dependant within geographical & bio-ecological conditions for life.
SELF ⟶	⟶ ⟵	⟵ **SELF**
Participants are formed and embodied in relation to distinct socio-cultural & communal aspects in place (history, traditions, education, language, relations, personalities, kinships, disciplines, and associations)	**COMMUNAL KNOWLEDGE** AGENTS, EXPERIENCES, EPISTEMES, PRACTICES, AND STRUCTURES ARE ACTIVELY CO-FORMED AND CO-EMBODIED IN COMMUNAL RELATION TO EACH OTHER AND THEIR INHABITED PLACES	Participants of distinct locales/places embody and are formed contextually in direct and inhabited relation with(in) varying physical aspects of geographical, geological, and bio-ecological features.
COMMUNITY ⟶	⟶ ⟵	⟵ **COMMUNITY**
Agential knowledge is emplaced (nested), embodied, and applied in varying fashion within a co-substantiating framework of socio-cultural & communal epistemes.	**SYSTEMIC KNOWLEDGE** SYSTEMICALLY AND RECIPROCALLY (IN)FORMING CORRESPONDING KNOWLEDGES AND CO-EFFECTIVE AGENTS WITHIN COMPLEX, EMERGENT STRUCTURES	Agential knowledge is emplaced (nested systemically) and grounded physically, geographically, bio-ecologically, within multiple referential aspects of physical reality
SYSTEM ⟶	⟶ ⟵	⟵ **SYSTEM**
Meanings, values, and ethics are emergently forming in direct authentic relation to socio-cultural environment and their socio-communal interactions	**AXIOLOGY** CORRESPONDING THE FORMING OF ETHICS, MORALS, IDENTITY, MEANINGS, VALUES, DESIRES, INTENTIONS, ETC. AS BASIS FOR CREATIVE ACTION	Meanings, Values, and Ethics are emergently forming in direct inter-relation to multiple facets of physical environment.
AXIOLOGY ⟶	⟶ ⟵	⟵ **AXIOLOGY**
Transformative action revises and is co-effective with socio-cultural and communal aspects at varying levels of interaction. Emancipation from crisis is sought through active, aware self(s) as participants	**INTER-OPERATIVE ACTION** CREATIVE INTER-ACTIONS IN DIALOGIC CORRESPONDENCE AT MULTIPLE LEVELS OF THE CRISIS IN CONJUNCTION. MEANING AND IDENTITY IS CO-FORMED IN CREATIVE ACTION….	Performative action transforms and is co-effective with other operatives in direct relation with physical world.
OPERATIVE ACTION	Reiterative	OPERATIVE ACTION

From the aforementioned theoretical domains of critical social theory and environmental discourse, the proposed position distills five (5) fundamental and interconnective conceptual components supporting the proposed position. These connective themes are engaged in this research through comparative analyses of interrelated concepts and associated methodological modes found in *critical social theory*, *environmental discourse*, and their significant intersections with *architecture*. These fundamentals are discussed in terms of **critical agent/agency, social community engagement, systems and knowledge systemization,** their **axiological** dimensions *(ethics, meaning, values),* and **inter-operative/performative action** modes, each of which has its own sets of epistemes and methodological approaches, but in essence are ontologically interdependent and co-substantive with the others (Table 4.1).

These five fundamental epistemological components are distilled and diagramed similarly as *The Five Elements Guide,* forming a framework upon which we can understand their relations, but also upon which to begin grafting together multi-methodological strategies.[451] However, the proposed *Critical Environmentalist* framework extends these elemental notions to an understanding of the multifaceted issues involved with the composite socio-environmental issue as a whole (beyond basic definitions of sustainability, an often negative-context word) and how multiple epistemological positions inform it and may be negotiated as altogether definitive, relational, co-effective, as well as creatively generative (as in *architectural*, creatively productive and performative) within that greater domain. Another significant differential and active aspect proposed is the 'axiological,' meaning-making dimension.

However, this can be identified as intrinsic (or always-already-present) to any discussion of *agential-self* and its identity - that is, meaning (as with values and ethics) for the agent in the world is fundamental to understanding the world in relation. Critical social theory brings this idea to particular significance in developing identity and emancipation of self (from 'false-consciousness'), an essential component as creative acts in the public setting must enable both the creator and the participants (all as stakeholders to a socially structured understanding) involved in relation. In this, we acknowledge that environmental concerns must also engage the agential self as the fundamental impetus, a knowing self that is also complex and meaning-oriented.

In essence, the first three elements are considered basic descriptive components, while the latter two are considered dynamic components because of their actively changing, but cohesive natures, albeit all working together as a total, interchanging framework. The research considers these to be the fundamental epistemological components of the framework, each with multiple conceptual subsets and associated methodologies. However, their base components supply the essential starting points for negotiating architecture at its multiple levels in complicated urban and community settings. An author of many publications discussing epistemology, meaning, and architecture, Keith Diaz Moore, professor of architecture at the University of Kansas, says that beyond the epistemological level, the issues of sustainability (as with social and environmental issues in general) may also be explored from two additional philosophical dimensions, the *ontological* (relationship of being) in nature and *axiological* (meaning, values, ethics).[452] In philosophy, while epistemology is often considered the root, it

inevitably leads, cascades, or bifurcates into other ontological, axiological (even ethical/moral) dimensions. These conceptual positions all return to the human agent as the primary facilitator and thus fundamentally the reason for negotiating these concepts.

To foster additional cross-referencing and de-centering of approaches, the research forms a matrix that is organized thematically into three connective, paired 'tiers' as significant components of a corresponding critically and environmentally oriented epistemic framework informing architectural endeavors. Each is discussed below and expounded in varying relation to critical theory, environmentalism, and architecture, but filtered through additional catalyzing parameters (*epistemological, ideological, ontology, and problematic*) to build an inter-connective, even cross-pollinating framework. By setting these base components, varying methodological approaches can be juxtaposed as cross-referential within an overall multi-methodological and catalyzing framework, albeit depending on context and composition of parts. The framework is formed systematically (seeking an '*architectonic of knowledge'*) and dynamically, catalyzed as an epistemic framework representing the nature of our understanding within our environmental *life-place* (a catalyzing space where any one part references all others).

As so, this research compiles a cross-referencing scaffold composed of a set of simple filters or categorical schemas in an attempt to develop an architectonic of knowledge (inter-connective epistemological framework) that can address multiple levels of the environment and can possibly open up new, dynamic ways of corresponding with it. This dynamic forms an *epistemological* framework for how we

know the world (ideologically), where knowledge originates (*epi-phenomenologically*), and how we validate it (axiological, ontologically, ideological, problematically, and ethically). The epistemological components include our material world as multi-referential and all our creations within it that form how we know and engage the world. Each part is co-interpreted and plays a role in our knowledge and understandings. The common *ground* in this operation are the shared environmental conditions that integrate them co-effectively together at key intersections or interfaced points, inclusive of natural (pre-existing, *a priori*, or universals) and socio-cultural manifestations (emergent meanings, *a posteriori*).

Because our actions are bound up in *how* we know the world and how we act upon that knowledge in relation, one must also intrinsically reassess the ontological relation of that knowledge base. For the rational, human component specifically, to understand and address co-relational environmental issues, this framework of knowledge forms *architectonically*, an inter-connective and co-defining (mediating and reflexive) forming of our knowledge systemically.[453] An architectonic, as an essential mode of architecture, forms from the reasoned categorical systemization of knowledge (distinct schemas in the Kantian sense), wherein each component allows for reciprocal growth and regenerative qualities to act as a continuation of knowledge to fill-in where others leave off. The assemblages of parts are intrinsically (inherently, essentially, vitally) engaged in critical interdependency - that is, the knowledges of any particular position are in part and parcel the knowledges of the other and the whole (co-defining knowledges). It is important to understand that these ideas are not intended to be taken

as prescriptive rules *per se*, but more as C.S. Peirce might similarly refer, acting as an agreeable set of categorical, "foundational ingredients" that serve as "architectonic building blocks."[454] Working from these particular conceptual stances within these fields, the goal is to form a set of interrelating parts or kit-of-conceptual-tools that can be incorporated together to establish a systematic (architectonically as a system) framework of thought toward a totality of socio-environmental goals.

These 'useful' (and meaning generating) components are to be contemplated as fundamental guiding devices (navigational tools) for multi-methodological inquiry that can also correspond richer, descriptive modes for architectural productions within multi-dimensional socio-environmental conditions. The point of such categorical devices is to simplify, focus, and guide our inquiry, while also allowing for more descriptive capacities and distinct methodological positions to co-emerge, intertwine, and lead into each other. Where one perspective leaves off, the reference can shift so that others may take over. With this in mind, this theoretical proposal moves away from stand-alone or reductivist accounts for design - that is, concepts framed within singular conditions or creations that attempt to form *ex nilio* (from nothing so to say, with respect to architectural theorist Titus Burckhardt). This mode instead fosters inquiry and design steeped in the richly engorged, complex (multi-faceted) contexts where architectural creations actually flourish best. Like our multi-dimensional world-image (*Weltanschauung*), the more complex the focusing devices for analysis and meaning-making become, the more effective its descriptive nature and the more its participants can form long-term meanings.

Figure 4.3: Categorical Aspects of '*Critical Environmentalism*' in Holonic Form. [455]

As a diagrammatic overview, these components and the knowledge we have of

them can be essentially arranged *holonically* (Figure 4.3) - that is, as dynamically

concurrent between multiple scales and components, *acting* through mutual

correspondence, together empathetically and systemically, thus significantly forming an

integral whole. The descriptive components are arranged in scale with the axiological

and operative action a constant flow between others to indicate active participation and

co-affection at multiple levels. These are not prescribed units, components or even

procedures, but are shown as those components which are always present and fundamental to every operation. What these indicate are multiple mainstays that contain within them an additional multitude of methodological and often cross-referencing approaches that can be considered. Significantly between these identifiable mainstays in the system, there is active cohesion at various levels of engagement that binds (*religare*)[456] them together. These simple base units can be used not just as connectors, but as points-of-reference upon which to view the other positions so as to provide a means of assessment for knowledges in regard to the environment. However for this research as with the issues we face, there is more at stake than a simple diagram can entail. This research simply indicates here that each of these components *must* play a role at some fundamental level in order to fully address the environment. And, it must be noted that leaving out components can lead to an inadequate or simply imbalanced, fragmented picture, with reciprocating effects.

Analogously, we can see this disparity occur in simultaneous ways when we analyze multilevel socio-environmental problems. While the problems within the measurable, multi-scale physical environment (ecological, biological, social, etc.) mirror the epistemic, perceptual, and socio-cultural (personal, social, economic, semeiological, etc.) dilemmas we face, the knowledge around this reciprocal dynamic becomes seemingly more complicated through each reiteration than we seem to be able to address. The environmental problems at multiple scales have been removed from this socio-cultural mode of being, and we are often at a loss in retrieving any viable perspective for a resolution. While on the other hand, environmental solutions,

particularly how architects attempt to address issues of sustainability (a rather negative-context word), have negated the social and cultural aspects which supply reason to such things as eco-practices. We are often overwhelmed by the problem and are resolved to low level reconciliation, coming to reductivist terms and counter-productive modes. We seem satisfied with comfortable and piecemeal levels of socio-environmental understanding, in lieu of being able to take it on head-strong and rigorously as a complex, composite framework.

The proponents of critical social theory endeavor to cross-section the world and look at it in multifaceted ways, revealing modes of being and knowing in varying ways that can substantiate others. The approaches therein offer ways to reconcile knowledges (representation of stakeholders manifested in material world creations). The practice seeks to understand ways to engage struggle and life as pertaining to the crisis, transformative reciprocity (epistemic consilience) between conflicting modes, and thus emancipation of agent in the world in relation. It attempts to enable or empower the agent to play a critically-aware role in change and revision (particularly their own), to be able to at least control one's own destiny against the dominating crises which have become so large we can not even see it anymore (like a big, overwhelming fog). Viewing the environment through our holonic diagram (as a model of holistic thinking) may help us to close-in categorically on key systemic features (or focus on particular structural points in the scaffold, the integral, systemic effects they may entail) that can be addressed at varying scales and points of intersection. It is the argument of this research that these essential conceptual intersections (also discussed as major themes or

central tropes) must be understood for architecture to effectively and equivocally engage greater environmental issues. We endeavor to reconcile the issues and work together toward knowledge integration of the various parts which keep us from seeing the whole. In this, we can work toward collective application and human well-being, happiness, and empowerment to our own resolve.

As an overview of all the components together, the first essential component to criticality in the social sense is the '*critically-aware self*' as active agent. As discussed in depth by Fay on the critical social sciences, the next aspect to this criticality and awareness is understanding the *crisis* (or problem) as a key aspect to that emancipation and transformation. Here is the identity and salvation of the self that is the primal impetus for action. In critical social theory, the socialization of *knowledge* (structured education) is often considered the key, root factor of the problem itself as well as toward possible solutions, a view also substantiated in environmental discourse by such environmental educators as David Orr. This concept brings in that the self is formed socially and communally; therefore this extended aspect leads into the second facet, *community and its place*. However, this 'knowing' is sometimes overly institutionalized away from critical awareness (into falsehood) and the identification of the crisis becomes tainted or inaccessible given a system that may keep us from it. Only when the subject becomes re-centralized within multiple, critical viewpoints, can one come into multi-focus on the issues within which *transformation* become possible (the *third* and *fifth* key features together), both an emancipation of the self and a move toward intentionally transforming the crisis through multiple validation points. In this

transformation, the self must also be aware that the same avenues must be open to others to pursue as well (thus opening up the other horizons). My actions cannot close the door of emancipation for others (inclusive in Nature), but must further enable others as part of my own awareness and emergence. The *fifth* feature of the proposed framework establishes the goal of critical social analysis as *application* toward greater socio-environmental well-being in the form of transformative or even revisionary operative action (with always the goal of cyclic and hermeneutic reiteration, placed in reflective check back through the other parts).

This is a built theory, composed of components in a working manner revolving about current environmental research and associated issues in the creation of our *life-places*.[457] This set of components is considered to be the consistent parts between the formative theoretical domains, but also what must be critically negotiated within all urban design and community development settings. Each conceptual component however, has varying ranges of relations and emphases to multiple knowledge domains and in each case their own individual methodological approaches, but intrinsically are ontologically interconnected (interdependent) with the others at varying levels of engagement. As based with human sociological affairs, a hermeneutic dialog occurs between the components, as it does between agential stakeholders (discussed later in this research), divergently forming and informing with urban fabrics and community developments. In this, the environmental is always present and engaged by the agents involved (at multiple scale interactively and reciprocally co-substantively). Understanding these agential manifestations and effect in relation is critical to

understanding these fabrics and developmental growths. The deliberate, dialogic

combination of methods within each of these conceptual positions establishes the

immediacy of careful, critical evaluation and multi-level reflection within the greater

socio-epistemological domain as they relate to the environment at these fundamental and

contingent levels of engagement. However, each combination of components is

contingent with its particular context(s), fields of validation, and dynamics of

participants, thus different through each cyclic hermeneutic iteration in the formation of

each place. The research will subsequently expound upon these five categorical

components forming the framework of *Critical Environmentalism* and promote multi-

methodological avenues for their viable integration within architectural discourse at

fundamentally the same epistemic levels.

Embodied Agents, Knowing Self(s), Agency, and Epistemological Formation

Just as we think architecture with our bodies, we think our bodies through architecture.
      - Marco Frascari, *Monsters of Architecture* [458]

If we look at the social world, the only one we know from the inside, we see the agents,
the humans, much more differentiated, much more individually characterised, much
richer in continuous variations, than the governmental apparatus, the system of laws
and beliefs, even the dictionaries and the grammars which are maintained through their
activities. An historical fact is simpler and clearer than any mental state of any of the
actors.
      - Gabriel Tarde, *The End of the Social* [459]

Reiterating and expanding the introduction of this research, the first conceptual

notion of **critical agents/agency** can be discussed in such extended terms as *embodied*

conscious self(s), selfhood, critical awareness, intellectualization, identities,

individualization, personalities, capacities, emancipation, and *vested stakeholders* as

they relate to the issues and the formative ever-emerging being within their world.

While these conceptual modes can be considered from many completely differing perspectives or philosophical positions, albeit with differing emphases and methodologies, it is significant to see where the overall issues intersect or are essentially the same. Here, the connective emphasis is put primarily in terms of 'vested stakeholders' and how they know and play roles as effective and critically-aware (and thus accountable) agencies in the co-construction of our world or *life-place*.

Starting from these primary notions, environmental knowledge and our endeavors within it (discourse theory/practice- ideas/actions) involve active participation of intellectual and intentional (accountable) *agent*s. The agent-self (intellectually aware individual or personality) is considered the primary knowing, socio-environmental stakeholder with capacity (agency) and intention. Therefore in all endeavors, we start with critically embodied self(s) as the primary agents-for-action. Significantly, agents do not act as pure singularities and they carry the ability to act intentionally and co-effectively (*agency, its capacity*). The idea of agent can also be extended monadically to include groups of agents, associations, or institutions, etc. as collective agents also with capacity to intentionally (with particular desires) act as a singular force. Agents and their capacities are bound together in a spatially dynamic and multifaceted network of relationships between other agencies (sometimes divergent, including the environment itself, monadically) that co-form a framework of knowledge for its participants.

Bruno Latour, in his discussion on *Gabriel Tarde – The End of the Social*, highlights the idea of the 'social monadology' as "sociology of translation." Beyond a simple definition of the idea, he instead starts with a point-of-view, a certain horizon of

immanent analysis, a pure inquiry-seeking research agenda, a *Monadology* toward understanding the social realm.[460] To Latour, it is "a way of looking, approaching, analyzing and articulating the fundamental objects of the social sphere (an analogy to Leibniz's monad as "the furniture of the world"). From Leibniz (and the Gnostic root), monads are the stuff of which the universe is constructed, its inter-working, corresponding and attributing components. Monads are defined as the *prima materia*, not as material essence, but in terms of spiritual essence, possessed by "faith and desire," the ultimate motivating forces that by consequence move the universe. Latour incorporates Tarde's definition of the 'social' as a distinct point-of-view, a knowledge-in-itself, albeit mutually corresponding to other knowledge's monadically. To this (Latour and Tarde), all things are monadic and all things societies, whether atoms in reactions, thoughts in the mind, attributes of objects and ideas, conditions for thought, rules of games, parts of language, creatures in their society or herd, or persons in their context. Monads are attributed with 'universe' (or 'society') within them (blessed with infinite complexity), the same universe all other monads are attributed; therefore they intrinsically and mutually correspond both their substantival character and their relational ontology with others.[461]

Within this concept, "faith and desire" (an attribute of the human-spirit) are paramount, as to put ones faith and desires with the universal, the conditions for particular attributes, identities, and spiritual empowerment are fostered toward the same continuance. The self becomes raised in-kind. Analogously, one's personal place and goals in their society or environment should also be motivated within this ideal. By

knowing the individual driven goals as components of society (interlocking monads at multiple scales and each composed of multiple components), the analysis can turn to the connective framework between them as monadic (the singular subject, the 'superior monad'), moving from the infinitely small to the infinitely grand as one phenomenon. To Latour, distinction between nature and the world, or between the micro/macro-level and the cosmological, and/or between the singular and multiple are irrelevant within a monadic framework.[462] Like the proposed framework of components, this is seen as a social assembly, only by engaging the interlocking complexity of homogenous components will a rich, heterogenic space emerge. Going back to Leibniz, Tarde brings to light that in the "bosom of every thing,"[463] a garden of infinite possibility and uniqueness appears, much like a primordial sea with every species ready to emerge. As the whole is not more than the sum of its parts, it is less. Likewise, the 'social' is less than the sum of its constituent aggregates."[464] The whole is the simpler, more standardized version of specificity in monads. The agent components are always more complex and richer in difference than their aggregates viewed as a whole.[465] The individual agents make up the richness of the whole and therefore are the rich reality of experiences within the whole, albeit again, ontologically with the whole. Both Latour and Tarde view agents, along with "influence and imitation," as together composing an 'actor-network.'[466] The importance of viewing the network as whole, leads us to our negotiation of agents to form a more substantial relation with environmental concerns, as actually the bigger, more-simple issue. Therefore, mediating the individualistic nature of components with the environment as the basic impetus for action is a vital concern.

We can develop an extraordinary image of architecture derived from a rich palette engorged with the priorities of primal, spiritual human consciousness, its phenomenological relations with the wilds (the very-real) of nature as an originative epistemic source, the social field and community practices, moral and ethical consciousness, all linked within a total, epistemic frame.

Because of these key components, the primary mode of operation here is associated with 'emplaced' and 'embodied self(s)-in-the-world' as the fundamental and accountable (intentional, desiring, knowing, and meaning-making) agent within an interrelating, monadic "actor-network" (with respect to Latour, *et al*)[467] for knowledge construction as well as the medium for interchange and forceful change within a total set of shared environmental conditions. The agent carries with it the reciprocal nature as part of a socio-communal network with others, as also with the greater environmental or even cosmological 'other,' acting simultaneously together in mutual correspondence. In this extended view, the creation of *life-place* must consciously engage all of its relevant participating agents in such a way for continuative and creative growth, authenticity, identity, and emancipatory action.[468] The architect here too, must be a first-person and accountable participant, while also playing a role in the enablement of others in the process. This notion basically involves knowing and creatively making persons-within-the world (with respect to David Seamon) as the active agents and agency, extended to the fact that there are multiple agents interpreting and acting together socially to construct their living environments. The importance here is that the active and conscious creation of our *life-places* must also enable its participants at many levels,

inclusive of both the creator and observer, the writer and reader as engaged in

hermeneutic, co-substantiating, and critically empowering dialogue. Moreover for this

human component, this framework of knowledge is formed socially and communally

(ontologically dwelling in cordial relations, *oikos*). To address environmental concerns,

this mode of operation draws-in multiple agential players' knowledge wellsprings

(including their axiological, ideological and ethical positions) and fosters in agreeable

socio-communicative conjunction (productive dialogue between agencies) for co-

creative endeavors.[469] As purely human facet, we must know these dimensions as

inseparable from our own being, and develop ways to facilitate them.

In urban and community development settings, there is a first-order necessity to

identify the varying levels of agencies, stakeholders, and their effective point-of-views

as basic functioning and meaning-making units of society. Agents have to be identified

and evaluated for their place in the community-of-affairs (both their contributions and

detriments). In this primary starting mode, we must negotiate a series of methodologies

(primarily form the critical social sciences) which are agent-centered and which have the

capacity to associatively draw-in multiple perspectives and meanings. Identification of

stakeholder-agents in complex urban settings leads to an understanding of the

multiplicative and multi-focal nature of the setting - that they are composed of

participating and co-effective agents (a network of actors with respect again to Latour) -

each carrying capacity to have meaning and to be interpreted and/or applied. However,

as intellectual and transformative agents, we can then begin to critically mediate between

positions, however driven from a mutual beneficial stance, as in naturalistically or

ecologically. This means multiple views contribute to the validity, meaning and value to

inform action. Intentions have to be moderated in the field of multiplicative inquiry and

allow critical cross-checking in the system. This emplaces the agent in relation to locale

and other stakeholders with vested interests in a community of affairs.

Architectonic Knowledge and Communal Accountability

*The perception of reality does not obtain the full value of knowledge, except when once
socialized, once made the common property of men, and thereby also tested and verified.*
> - Edouard le Roy, 1912 on Henri Bergson [470]

*A culture is like a big organization which assigns each of its members a place where he
can work in the spirit of the whole; and it is perfectly fair for his power to be measured
by the contribution he succeeds in making to the whole enterprise. In an age without
culture on the other hand forces become fragmented and the power of an individual man
is used up in overcoming opposing forces and frictional resistances.*
> - Ludwig Wittgenstein, *Culture and Value.*[471]

*For a long time individuals authenticated themselves thanks to their reference to others
and the manifestation of their links with others (family, fidelity, protection); afterwards
he was authenticated by the truthful discourse that he was able to formulate. The
confession of truth was inscribed by power in the heart of the procedures of
individuation [...] a 'political history of truth' should demonstrate that truth is not free
by nature, nor serf of error, but that its production is all crossed by power relations.*
> - Michel Foucault (as quoted by Enrique Leff) [472]

Since our environmental is composed of many agents in conjunction, this idea

then extends the dialog toward ***community engagement*** to bring these knowing-agents

into direct relation with each other and their *contextual emplacement or embedment,*

situatedness-in-place, acculturation, social networks/actors, accountability, traditions,

social structure, belief systems (ethics and morals), and their overall socio-communal

nestedness. Like distinct agents, communities (as with their social structures) are co-

enabled through collaborative, social practices linked with their distinct environmental

(even situational or contextual) conditions for thinking, where distinct identities and

meanings form in-place (a lead toward the axiological component of this research in conjunction). Each essential aspect of our epistemological and ethical being emergently co-forms around distinctly instrumental and pragmatic interrelations within their socio-cultural, contextual frameworks by way of their dialogic communion and applicative negotiation within the greater domain of action.[473] We know and work together toward shared concerns.

Frances Downing, architectural theorist and educator, elucidates the immanent connections of embodiment with architecture and states that "architecture is beginning the process of aligning itself with a new [ethic and] moral code, one that is inclusive of our biological [corporeal] reality, the embodiment of ideals [socio-cultural], systemic evolution, and ecological evolutions." She forms a basic set of criteria from numerous source material for a radical advancement of architectural thought that it "be *emplaced experientially*, be inclusive of *dynamic systems (complexity)*, be *ecologically liable*, and realize *metaphors of embodiment*."[474] This criterion, itself architectonically and categorically (with respect to Kant) modeled, forms a systemic framework of embodied-knowledge-in-place, a coherent, inclusive and interconnected episteme, albeit significantly acknowledging the corporeal agency. Knowledge is derived though the corporeal and human embodied interaction with the world, thus our co-emergent creation and our inhabited making of the world are immanent to our being. Here, the self is rooted in the continual revision or evolution of the *life-place* (the other-as-oneself, inclusive on intimate spaces, community, urban development, eco-systems, and the greater expanding cosmos) and thus co-emergent within the system that sets the

conditions and is conditioned by knowing.[475] However, the irony seems to be that this reciprocity can be both co-forming as well as co-destructive - that is, co-emergent in multiple directions. This interplay establishes the ongoing role of the knowing and acting agent with capacity within a world that is at the same time existent and also not yet, whether good or bad. Beyond simply a state of balance or parity, we can define 'the good' (benevolent) or the creative as that which is moving in a positive, life and meaning forming way, while the other destructive and dying. In this mode of thinking, the self is co-emergent with its social-communal and urban settings; therefore essential and conscious interplay, rooted in an axiological understanding of what is good, valued, or meaningful between agents as necessary to continual well-being.

In *Epistemic Responsibility*, Lorraine Code discusses the notion of an "epistemic virtue" that "rejects the Cartesian conception of knowers as self-sufficient, disembodied intellects." Instead, she regards knowers as embodied agents, who are cognitively interdependent "members of communities of knowers" within their contextual environments, "replete with epistemic duties and obligations" of which are equivalently associated with the knowledge of values, ethics, and morality.[476] To Code, society and its individuals (both varied forms of agencies) are "mutually dependent" in culminating moral virtues and good character in action. The advancement of the social *good,* and particularity in the case of environmental concerns as socially inter-dependent, requires a "critical mass of virtuous citizens" (like Aristotle's *Paideia*), like-minded agents with benevolence in mind working toward the same goals.[477] To Code, the idea of an "epistemic community," promotes that "knowing is an important social phenomenon"

and that human practices must be understood in relation to the overall *Lebenswelt*, the inhabited world where "human beings do in fact [together] live, know, and have experiences," as well as form mutual empathy and meanings.[478]

A history of community action (in)forms the foundation for thought, value, and social practice in relation to environmental conditions. This can be seen and critically analyzed from two basic facets. First, that the social episteme and its manifested discourse and dispositive (from Foucault) together form a worldview that may be counter to actually addressing the crises. This notion is seen in the conceptual range of 'history of action,' (Marx, Fay as discussed previously) wherein we may be inundated with the conditions which keep up from seeing the crisis (disempowerment). These notions also have to be acknowledged from their distinct *traditional* or *historic formations* as essentially its 'rootedness' within a given community. On the other hand, environmentalism along with critical social practice incorporates the same structure to foster community practice toward *equity* and *redress* and the subsequent empowerment of its individual members within the systemic environmental framework, ecologically and socio-culturally. Enrique Leff (of the *UNEP*) in his "Nature, Culture, Sustainability: The Social Construction of an Environmental Rationality," aptly pairs the crisis of social detriment together with environmental concerns in place, stating that "cultural difference, ethnic identities and local autonomies over the territory and resources, are contributing to define the agenda of environmental conflicts beyond the economic and the ecological, claiming the ethnic rights for otherness compromised with social justice, cultural diversity and equity in difference."[479]

There can be no separation between our social or environmental structuration and the communion of agents that collectively interpret, act, form, and perpetuate that structure. Acknowledgement of this dichotomy within the knowledge structure forms a basis for a certain *epistemic responsibility* (with respect to Lorraine Code) and a means for redress and crises-oriented action, corresponding in a field of affairs. Thus, community and social structure can be either an enabling or disabling component, but better if it enables an environmentally stable balance and equity between affairs. One must be critically aware of their structuration (or acculturation) in order to emancipate oneself (with others) from the crisis and address the issues. Again to Leff, pairing the condition framework, he states "what meaning (an axiological aspect) can still be attached to liberty, identity, existence and the will to know in the construction of a [co-] sustainable future?"[480] As such, it seems very 'natural' that we should be very concerned about that multifaceted and co-effective structure *as* the (epistemic) conditions for how we know and experience our *life-place*. The understanding of community also brings to light how knowledge is formed socially and that education and environmental-knowing forms out of the social field (rooted in traditions and history). This also negotiates how the environment and varying daily social practices are learned and made evident in regard to the environment. Hence for the human condition, the environmental system is intrinsically social, a bringing together of one's self(s) within communal and mutually beneficial knowledges, experiences, and praxes. It is important that the ecumenical terrain be critically read (what is accepted and enforced like discourse, practice, productions, a library of related subjects, or any other collected sets

of disciplinary works that carry repetitive cultural meaning), in order to lead toward any revisionary response.

Enrique Leff, similarly as Teymur inquires about the unification of environmental discourse (now more attuned to the social condition), asks "how could a new epistemology, a new ethic, new *savoirs*, and the commitment with life and solidarity with the others halt the present world's unsustainable trends and reorient thinking and policies towards people's interests, social imaginaries and collective projects?"[481] Leff sums up a view consistent with many in the critical environmental sciences (David Orr, *et al*) that the: "*environmental crisis* is above all a *problem of knowledge*. It leads to re-thinking being and its ways towards complexity, to be able to open new paths in history and to create an *environmental savoir*, capable of reorienting societies [communities-in-place] towards the reconstruction of their life-worlds in a new relationship [socio-culturally] with nature." To Leff, redress in regard to the crisis involves "imagining a new environmental rationality," an 'environmental epistemology' or 'savoir' (from Foucault, cultural or structuralized knowledge or *know-how*) that re-associates intrinsically with the real complexities (even subtleties) of the human condition in direct relation to environmental concerns.[482] Extending this notion, Leff states that this new "*environmental savoir* inquires about the *embodiment* and *emplacement* [even *nestedness*, italics added] of *values, visions, senses, sensibilities*" into distinct and co-operative knowledge(s) about the socio-environmental *life-place* and for the emergence of "new territories of being, opening a new field for the encounter between rational thinking and moral values, between formal rationality and

substantive ethics." Here again we are concerned with a community of human affairs, how that community (even as a set of disciplines) interprets and *knows* its environment-in-place, and how they act and form meaning and empathy in regard to it collectively at multiple levels.

A notion that supports this proposal, Leff brings to light the necessity to enable a critical environmental episteme and 'ways of knowing' that engage the socio-cultural and ecological world together in new ways. To him,

> Environmental hermeneutics [and constructivism] goes beyond the interpretation of the alternative meanings of the diverse discourses that cut across the field of sustainability with the purpose of reaching a consensus and a common truth. The construction of a sustainable world founded upon cultural diversity will have to arise from the interweaving of the differentiated meanings of diverse beings that face and confront each other in present time, projecting themselves through history without always being capable of declaring their intentions, of recovering their past memories and anticipating their future. This is the fate of an ethics of otherness (Levinas) and a dialogue of savoirs and knowledges in the construction of a sustainable future.[483]

Hence in environmental discourse and its critical social counterparts, we are concerned with the meditative framework of hermeneutics between epistemes as the basis for ways of knowing that encompass community understanding, socio-cultural development, our relation to contextual environmental issues, and the co-development of enabled agents (human and other) with their multiplicative interpretations, sensibilities, even feelings as critical components of a total picture. To Leff, "hermeneutics opens thinking to a multiplicity of meanings in the interpretation of the real," moving from alienated logic and reductivist approaches to a new dialog and connected, multi-focal environmental view. Hermeneutics brings to light various methods incorporated in the *critical social sciences* (critical social theory) that can play a distinct meditative role in understanding

our present world and our interpretive designs toward it in relation. A 'fusion between horizons' (with respect to Gadamer) implies that all sides are on equal grounds for participatory experience, co-learning, redress, and transformative action in a shared, catalyzing socio-environmental field.

Since criticality is inclusive, this agential mode must bring-in every identifiable participant and force (human-constructed or otherwise, biological or ecological, that can carry meaning or bias). This multi-focal structure, each with its own dimensional effect on the spatial form and environment, requires corresponding multi-methodological approaches to its understanding. Various human-oriented methods range from stakeholder identification approaches, to interviews and narratives, to various forms of qualitative inquiry. Other methods lean toward the geographical, ecological, and physical sciences, identifying actively effective forces or structural interconnections. In order to foster-in the most complex set of divergent knowledges playing their role in the setting, methods should be incorporated in conjunction to increase the sampling, selection, and association. Because of the subjective as well as subject-oriented nature of these inquiries, multiple documentation tools should be incorporated in conjunction to layer divergent views together within a common plane, allowing individuality, relative association, and equity of views to naturally reinforce each other as much as possible. Each agent must be able to co-tutor or inform another, building reciprocal understandings. These agential perspectives can be categorized within interrelating matrixes and mappings, so as to get to the complexity of associations between the emplaced interpretations of participating stake-holding agencies. For the participant

observer, the researcher or designer, these also become tools for managing the multifaceted parts of the shared space to their mutual benefit.

For an urban design and community development approach, identification of the community of agents and their distinct place(s) of occurrence, its context of intimate human affairs, and their dynamic engagement within the particular relational facets associated with the terrain/locale/context is significant. Within these settings, the interplay and intersections between knowledge agents and their manifestations has to be viewed, negotiated, and integrated as a total system-of thought. We are concerned here with how the stakeholders are engaged and related in a community of framework affairs, their roles, their co-effectual ranges, their intentions, their sensibilities, their dynamics (negative and positive), and what makes each in its place unique and authentic in the minds-eye of its engaging inhabitants. Here, we acknowledge that agents (whether it be the singular self, a set of associated agents, or the manifested components) all carry with them a body of knowledge (an episteme), which they manifest in spatial action and form. And, that all agential capacity (agency) carries co-effective force to act either in accordance or in divergence to other agents and their capacities.

To Leff, the realization of the agential component with all its particulars and sensibilities needs to be aligned with an understanding of "*environmental complexity* [that] leads to rethinking the principle of formal identity –which affirms the selfness, selfishness and sameness of entities– in contrast with complexity that emerges from diversity, plurality and otherness."[484] All agents, as stakeholders in a common

environment, must be co-enabled by their relations with others and in direct relation with the environmental conditions to interplay and ethically co-affect within their places. As such, this negotiation requires dialogic accountability of one's knowledge in relation to others and its effectual environmental range. Ideally, the composition of agents that forms, being unique in every situation and context, fosters in each its own structure for identity for its participants. If the context is to be distinctly meaningful to its participants, then the participants at their many levels must be enabled (empowered) and co- informed to effectively and communally play their varying roles in the co-creation of their own *life-place.*

For architects, this context builds a meaningful palette as a basis for creative endeavors, while also supplying the means for contextual fit and a greater capacity for community acceptance and thus success. As participants in their communities, particularly when engaged in urban design and development, architects can bring informed advocacy (a voice for its people) and community learning that is inherently co-enabling. The architect learns the particular community in dialog and plays a role to mediate between facets toward a co-tutoring framework of affairs and co-operative application. Pragmatically, this can be a productive factor for both the architect within the community of affairs to gain more success, and a way to bring to the communal table knowledge that can empower people to play vital roles in their communities. To Elizabeth Ellsworth, our communities are '*places of learning*' wherein the community itself, the framework of affairs, is like a classroom of sorts for learning how to be (or make) a community or to act environmentally. Our communities are engaged and

charged with embodied experiences that open up to new pedagogical horizons of mutual understanding (co-tutiring) and a co-effective place of experience that can be both productive and emancipatory.[485] This fosters a mode that co-enables its participating agents, both for the creative architect (as participant observer) as well as for creating multi-dimensional space for the embodied self-actualization of community participants to occur. We experience and act together in environmental advocacy toward common goals with others in the co-creation of our *life-place.*

In an informal conversation, Colemen Coker, architect, educator, and once partner in the rural Studio with Samual Mockbee, states that it is significant to our architectural creations that we take-in "knowing the world" phenomenologically, at a very root fundamental base in direct relation to the human condition. To him, without this basic feature, we are simply "disparate with no direction," and thus with no real responsibility or basic accountability. To Coker, we must be aware that "new things are always emerging" (paraphrased) in the world for us to embrace that better our relationships with it and to each other within it.[486] It is here, in the varied garden of mutual experience and growth, where we form our knowledge(s) of the world, but it is also where we engage it meaningfully for mutual benefit.

Environmental Episteme, Inter-Connectivity, and Systemic Inclusion

One result of formal education is that students graduate without knowing how to think in whole systems, how to find connections, how to ask big questions, and how to separate the trivial from the important. Now more than ever…we need people who can think broadly and who understand systems, connections, patterns, and root causes.
        - David Orr, *Ecological Literacy* [487]

Global education is an holistic paradigm of education predicated upon the interconnectedness of communities, lands and peoples, the interrelatedness of all social, cultural and natural phenomena, the interpenetrative nature of past, present and future, and the complementary nature of the cognitive, affective, physical and spiritual dimensions of the human being. It addresses issues of development, equity, peace, social and environmental justice, and environmental sustainability. Its scope encompasses the personal, the local, the national and the planetary. Congruent with its precepts and principles, its pedagogy is experiential, interactive, (student, self) children-centered, democratic, convivial, participatory and change-oriented.

- David Selby*, "Education: Towards a Quantum Model of Environmental Education."* [488]

Because of the complex array of active forms of knowing, the idea of *knowledge systemization (*also discussed in terms of *architectonics, integration, synthesis, interdependence)* puts the previous two modes together in direct correspondence and continuative relation to each other and the complexities of the greater environment, wherein the issues are very-real and interdependent (co-substantiating). From our composite model, the understanding of 'systems of knowledge' for this research has three key component subsets: *critical social systems of knowledge, environmental reference as epistemological grounding, and composite interdependence that leads towards creative and meaningful production.* In complex settings, as in urban design and community development settings, we must endeavor to systematically understand the complicated relations between discursive epistemes and their correspondence to the varied actualities of the greater environmental domain. In addition, we bring to light the differing and distinct methodological approaches from 'expert' or authoritative positions (universals, global) that have to be understood and mediated in conjunction. We also must understand these knowings and their relations to the actualities of the geographic, ecological, biological, *et al* and how these are tied in to distinct axiologies-, identities-,

and meanings-in-place as a basis for creative and co-effective acts. Here, a system that is considered 'good' and working is one that is charged (or even engorged) with productive meaning and is inclusively life-supportive, in a state of cohesive and co-substantive parity or balance. The systemization or integration of knowledge builds a collective and mutually reflexive framework for complex enterprises. In addition, the systemization of knowledge leads to correspondence with the systemic or even organic nature of the scheme of things from an overall interconnective perspective. From an environmental stance, we are interested in the conscious awareness or the inter-dependence of correspondents within a total system of affairs and how they can be understood in terms of creation.

The *first* subset of this component extends beyond the initial understanding of the significant communal aspects of knowledge established in the last section of this research. Here, we acknowledge the critical social sciences that socially structured frameworks of knowledge, epistemes, form in socio-communal correspondence to each other, in critical organizational relation to other forms (and structures) of knowledge (some more dominant or privileged over others), and in direct referential relation to the actual complexities of the 'real' inhabited world. Figure 4.4 below shows a possible organizational diagram indicating a complex range of agents and their knowledges (inclusive of human emotions) working together towards collective action. Disciplinary positions and distinct point-of-views within a community of knowers form into distinct, discursive facets or compartmentalizations corresponding to varied environmental problems.
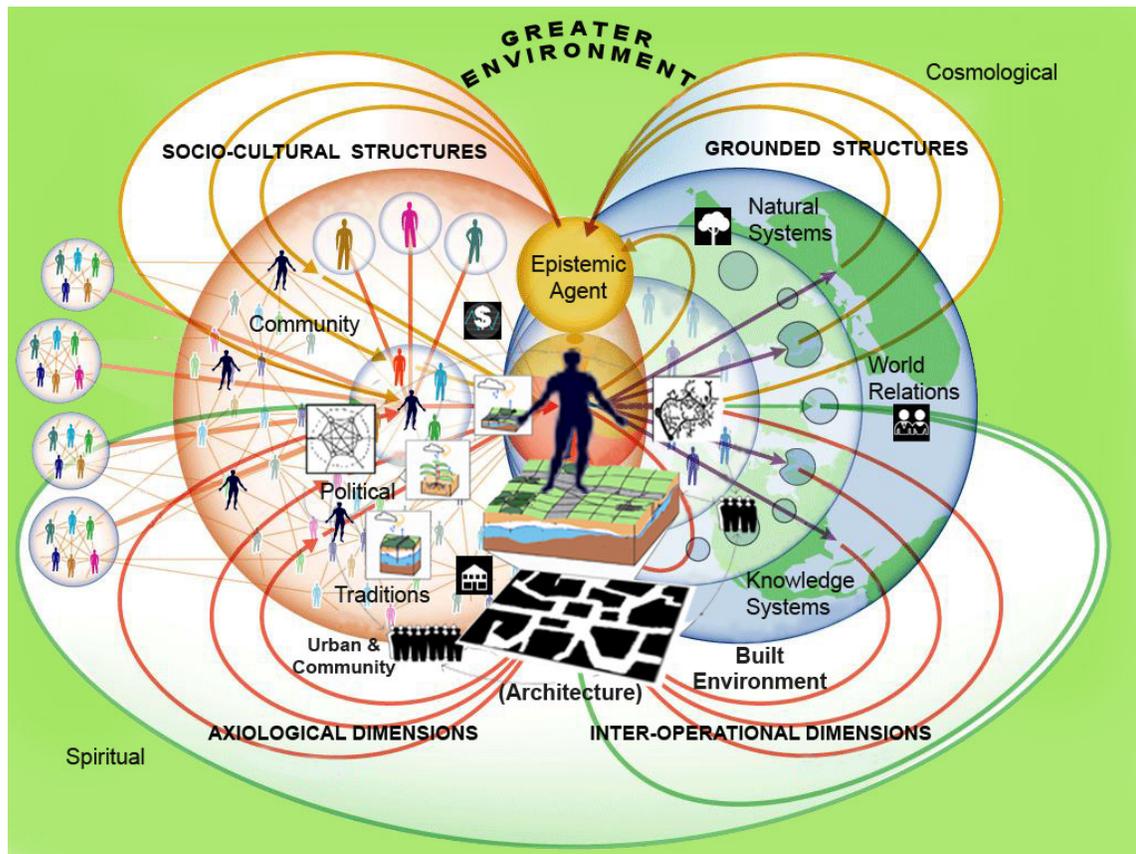
Figure 4.4: Diagram Indicating the Relationship of Agents, Knowledge, and Operations Within the Complex Socio-Environmental System. [489]

For urban settings, with many intersections of socio-environmental issues, there is need to negotiate these knowledges systemically (a form of architectonic) to foster an overall collective strength effect toward the issues. If the system becomes too fragmented or unmanaged, it becomes unproductive and often conflicting, resulting in problematic social manifestations and environmental crises. Managed collaboration and knowledge integration is paramount to addressing the immense problems we face, as not one stand-alone or reductivist approach as can ever account for the greater complexity of issues. Here, the idea of knowledge integration is akin to what some have termed 'facet theory,' as it fosters multifaceted approaches to multifaceted (or multi-dimensional)

problems. However, there should be more adhesion to the ideas of knowledge and meaning-creation formed through varying social practices. As such each facet of the environment is translated into units of knowledge often manifesting in distinct disciplinary portions toward it. The disparate and discursive knowledges and their associated practices, as parts of a whole working system, must be mediated toward common goals.

C.S. Peirce, in his 'architectonic of knowledge,' describes the relationships between disciplines as working within an overall connective and reflexive framework - that is, similarly as Kant says in his *Critique of Pure Reason* of our epistemic, that it forms as a system as the basis for our sciences.[490] In this, we must establish interfaces or common meeting points for dynamic interplay. Peirce places 'architecture' itself as a distinctly 'reflexive' discipline between knowledges and disciplinary positions, often itself creating new disciplinary positions. Because of the many intersections with the greater environmental domain, there is need to understand that methods for inquiry and application toward the varying facets must be applied in tandem, correspondingly, and co-operational without loss of value or intensity.   While each component can be thought of and discussed as singular ideas, the critical relation is such that each piece of the system 'reads' and co-substantiates itself through the others – that is, they form an architectonic of thought through each of its components, no matter which path is taken. Analogous to Susanne Langer's notion of an 'architectonic' process, while the space or image forms-up within one frame or instance, the other components are still intrinsically present to emerge and 'fill-in' or substitute ingredients for what on the surface may not

be represented, but lying underneath and within the structure of the total picture.[491] In an architectonic, as is essential to architecture, knowledge has to be brought into co-existence and rationally mediated to address the multifaceted issues collectively, but also to guide a creative process enriched with the same complicity of our *life-place.* Here, the fill-in or in-between, the reflexive position as a mode or discipline in itself, becomes the cohesive and substantive, totalizing element.

Within the *second* aspect of this component, each discursive component must be evaluated and grounded by its direct correspondence (a case for parity) or 'fit' within the very-real of that multifaceted environment. To Enrique Leff, through an epistemological perspective, the environmental crisis can be conceived as the *lack of knowledge that mobilizes knowledge*. The environment here, known itself as a composite of knowledges, is the absolute 'other,' the referential of knowledge. To him, the environment is that aspect or "part of the world" –of the real, of knowledge, of being– which has been dismissed, externalized and exiled from normal science and rational thinking.[492] All knowledge-based actions occur not as removed abstractions, but correspond together in a system-like, co-effective manner in direct referential relation to the crisis. Because the urbanized and community fabric is also a discussion of the inhabited human landscape and its multifaceted interplay with the world (environment, ecology, resources, etc.), each part and epistemological formation has to be seen as a co-effective facet with its relative 'fit' within the greater environmental domain where it resides. The architectonics of our human knowledges are formed as exchanges between environmental systems, how it is interpreted and made manifest across many fields in

direct correspondence and co-effective performance to the multifaceted nature of socio-environmental crises.

In architecture, 'green' or sustainable design has attempted to address many issues of the eco-environmental crisis, as in solving direct embodied energy or carbon-foot printing and in negotiating actual effect on eco-systems. Here is indicated a fundamental understanding of the physical and performative effects of the built-world, along with its play with other effectual facets, on its environment settings, social structures, and global systems. Here, we are also concerned about relations to other places, how other locales or global conditions may play their roles in understanding in-place issues. Such issues as cultural analysis and the sciences of anthropological studies, mixed with the dynamics of ecological, climatical, geological, or biodiversity issues from an outsiders view or by working case study models can be placed alongside as informative (but not overriding locale practices). Beyond a strictly insider's or participant's view, the mode of analysis can be extended to how the local ways of knowing and practice fit into the overall system of doing things and how a place forms in relation to varying parts and forces involved that can only be seen from another perspective. This highlights the need to establish a 'critical' framework from multiple points of view as collectively informative. This also moves toward scientific, cross-objective, or performative responses to the issues, where one locale may effect another. Direct and distinct correspondence to the environmental crises-at-hand (in parity), each system in each place is understood as dynamically unique, but also is understood in relation to the whole global set of understandings. Systemic relations occur as

dynamically spatial constitutions, often between even conflicting or divergent views, converging on singular focal places.

Linking back to our community understanding of knowledge-in-place, in the *third aspect* of this system compoment, we gain from environmental discourse that the physical aspects of geography, geology, ecology, *et al* play a significant role in our epistemic formations, our shared meanings, and thus our reasons for action. The system of knowledge here is another level of correspondence wherein we are formed in meaningful ways within the physical place of occurrence and everything that composes it for our particular understanding. These environmental conditions directly form our social or cultural understandings in place (as Preston and Code bring to light in our environmental discourse). Ecological or geological phenomenon also become modes of meaning-making, thinking and memory generating, as in the names of places or foods, drinks etc., and/or corresponding to locale features or events. Raising these issues in relation brings to mind that environmental correspondence is directly related to how we experience and practice in direct relation to our environmental conditions. For instance, extreme conditions, as in flood areas or arid, solar-gain regions, become distinct features of daily life which also directly form distinct social, inhabited, or cultural identities or ways of knowing and being. The features are often translated into architectural works and cultural assemblages, forming life and identity for its people. In flood or even tsunami areas, we live daily with flood walls or gates which prevent social interaction or water edge usage. In high solar-gain areas, we may get court-yard culture and shadowed

urban streetscapes. How and where meanings are formed for humans in the world, in turn, also becomes inhabited.

Albeit simplistic, the process is analogous to the hybridization that comes from simple cooking procedures wherein a lot of ingredients, pan and bowl types, procedural methods of mixing or cooking, and often even a multiplicity of cooks and their styles (each working their own way) are able to come together in a certain agreeable and creative fashion to produce a singular, conglomerate outcome of extraordinary quality and characteristic uniqueness. The ingredients here in complex urban settings, with all their divergent categories and intersections, seem at first to never be able to come together, except by way of certain common or shared outcomes or intentions. Dialectally opposite views often form a 'common tongue' or 'contact language' to mediate each other (shared meanings as catalysts, with respect to Glissant and his discussions of Creolizations). Across the globe and in many varying sets of conditions, many combinations exist, each unique and within each a basis for the 'new' as a palette for creative endeavors wherein rich meaning can be derived.

Similarly substantiating Orr's notion about understanding environmental complexity, Enrique Leff states that the "environmental crisis is the result of the subjection, submission, dominium and ignorance of complex nature, of complex time, of complex being, of complex thinking." To him, this crisis itself "yields to a new understanding about the world through *savoirs* woven into [a multiplicity of] worldviews, ideologies, theories and practices," a complex *Weltanschauungs* reflection of diverse cultures and being(s). There is simply much more to the environmental

problem, as the crisis carries with it our human knowledges and our associated meanings

and identities, even memories, beliefs, empathies, and sensibilities that build multi-

dimensional character to the system. Adding to this Leff states:

> From this forcing of reason, of the real and of being, emerges the power of
> complexity, the synergies of complex being[s] where differentiated times
> converge, where identities interweave, where cultures amalgamate, where nature,
> culture and technology hybridize, where meanings conflict in the differentiation
> of being. Environmental complexity is the prism where light is refracted
> displaying a multicolored fan of alternatives, of various frequencies, towards an
> infinite [creative and meaningful] world and a [co-]sustainable future. [493]

In Leff's notion of this dynamic, agent-oriented "*environmental complexity*, the

'new' is born with the entwining of biological and cultural evolution with economic

cycles and technological innovation; with the transmutation times induced by

transgenesis, the actualization of times-lived, the invention of new identities and the

emergence of new world-views and life-worlds [or life-*places*]."[494] Again pairing the

intersections between socio-cultural and ecological degradation, Leff states that this

"environmental complexity emerges in the confluence of processes and times that have

[altogether] blocked creative critical thinking, degraded the ecosystems tissue and

eroded the fertility of life; that have subordinated and subjugated the diverse identities of

the human race."[495] To him, these processes can lead to the establishment of

incommensurable homogenizations' and 'homologations' of the natural order of

heterogenic distribution (of diversity, pluralism, multiplicity, complexity), "where no

equivalence or translation is possible between dissimilar meanings." To Leff, within a

"radically heterogeneous" system of affairs, the "essential diversity within language and

the symbolic order enacts a *politics of difference*" to be reconciled with the socio-

environmental crisis.[496] In this, critical hermeneutic 'consilience' (a reciprocity of knowledges within a catalyzing, shared being and environment) becomes the emergent means for systemic parity or balance, co-creative multiplicity, and the *transgenesis* between modes for identity, meanings, and socio-environmental redress in place. Meaning and distinctness of character emerges in the cross-fire and conflict of divergent positions attributed to agents and knowledge formation that must be understood as in-formative to the physical shape of our *life-place*.[497]

For architecture, to have long-term vitality within complex urban design and community development settings, design interventions must be understood in relation to their poly-charged and multidimensional nature. As part of the human condition and socio-environmental life-place, creative approaches must responsibly adhere to multi-methodological approaches consciously composed of meaning-finding approaches, knowledge integration tools, and universalistic, known working case-model approaches (where bottom-up meets and checks top-down). We seek in this consilience of knowledge between effective stakeholders at even abstract, trivial, or taken-for-granted levels also forming a rich palette for co-creative presence. But with this, we must acknowledge the need for critical, non-reductive rationale in direct relation to human interfaces within multiple levels of a complicated, greater domain. The *ETH* (Zurich-Nord) model in the case study chapters of this research present some useful knowledge integration tools and design models for incorporation within complex urban and regional developments. The case-data and categorical knowledge-based stakeholder positions that are identified or formed are negotiated through multilevel 'preceptors' or filters that

guide and co-inform (co-tutor) each represented knowledge area and their manifestations in physical (built) form. Each stakeholder position, carrying the weight of an epistemic position or category with the intentions and capacities to spatially form in relation to others, are filtered through other's preceptors or common goals and/or desired intentions or outcomes (thus an 'embedded' case) to obtain a certain hermeneutic fusion and co-substantiated (co-created, participant structured) emergent form. The role of the architect (researcher) as facilitator, and often advocate-translator between systemic issues, forms jointures of meaning and co-operation which bring ideas together (like in architectonically, forming a deliberate system).   The common catalyst in the ETH study, as with this research proposal, is the socio-environmental outcome of overall quality of life and sustainable well-being for all stakeholders.

Axiology - Reciprocity of Meanings, Ethics, and Values

…that nature is being murdered by 'anti-nature' – by abstraction, by signs and images, by discourse, as also by labor and its products. Along with God, nature is dying. Humanity is killing them both – and perhaps committing suicide into the bargain.
    – Henri Lefebvre, *The Production of Space* [498]

While this research engages the embodied agency of *self* as the primary, conscious and intentional vehicle for knowledge and creative action, the relationship of self and its place with(in) the greater environmental complexities can be embraced as a key part of substantiating one's own identity and creative endeavors, raising them up to an equivalent level of significant meaning and value. However, the initial system-oriented concepts can be considered mechanistic or static in nature (as in happening without intent or goal) and are not enough in themselves. While the previous three components have distinct structural or foundational attributes, as in 'set in place" or

constant (continual), they also have variable or dynamic components as well. As an intrinsic (always-present) and active component, it is significant that together they form *axiological* dimensions - that is, for these components to have bearing on the human condition, they must also be meaning-generating, value-laden (or value-enriched), and ethics-forming. Intrinsic to the whole picture, these attributes must continue to fulfill significance to our lives and experiences. In addition, the notions of 'care,' empathy, and reflection come to bear as fundamental to significant action.

Here we move beyond an initial understanding of frameworks of knowledge or 'knowledge integration' (*per se*) as simply an intellectual game or academic exercise, but more how our beneficial *life-place* will actually form within that system, which in itself is very complicated and multidimensional. We are not concerned here with abstracts or indiscriminate ('out there') environmental things or events as we do not act randomly toward the environment, but rather with 'significance' of how the environment intersects human endeavors and how this intersect is where multiplicities of meaning and life form. There are more than just random systems or neutral organizers - in fact, to the human condition, nothing is ever really neutral but engorged with potential for meaning and value. The very-real of the environment becomes translated socio-phenomenologically into our knowledge before we are able to rationally and intentionally interact with it or even progress it into our articulated, inhabited *life-place*. Otherwise, our awareness and meaning making attributes, of 'faith and desire,' would be a mute discussion and we would simply be inert facets in simple relation to it. We

endeavor to understand the environment primarily in human terms, and thus we are inevitably concerned with sustaining our very selves.

Significant to the proposed position, a quantitative, 'systemic' understanding alone is simply not enough to just negotiate the problematic relation of human production and things within the environment, as there are humans involved and that humans by their nature give rise to inhabited meaning and intention (good or bad). Beyond a discussion of systemic relations *per se*, an *axiological* stance involves a summative study of ethics and aesthetics (beauty) as co-substantive with the development of meaning and values. In regard to our collective life-place, this understanding must be paired with qualitative and axiological understandings, that is, with priority of productive life and values in pursuit of the *beautiful*, *good*, and *right*. To Aristotle in his writings on ethics (*Nichomachean*), the goal in life is mutual happiness and well-being (*eudaimonia*) and virtue is found in the (golden) mean, the reconciliation between things. This stance also promotes the imperative to understand the other's position in order to lead to rapprochement; such is the essential nature of inquiry. These notions mirror the *TALLESI* argument for the axiological dimensions and values-awareness in higher environmental education as put forth earlier in this research.

Similarily from an architectural point of view, in "A General Theory of Value," Michael Benedikt lays out three supportive propositions. First, he states that "a (positive) value is attributed to that which preserves or creates more [productive and ethical] life." Second, that our place must be full of "lifefulness," that is - "characterized by a particular [optimal] quality and combination of complexity and organization,"

perhaps in addition mixed with a systemically engrained moral or ethically oriented framework (with particular respect to Spinoza's 'Affections'). In this, it can also be defined as that which is also prosperous and enriched with potential for further optimization or perfection. Third, Benedikt states that these "depend on the quality and flow of information among people and in the [greater] environment".[499] This reiterates the importance of interconnectivity between agencies and their capacities to co-affect each other at multivariate levels within an overall system.

However, in an analysis of the philosophy of C.S. Peirce, Douglas R. Anderson in "Peirce's Agape and the Generality of Concern," states that beyond the systemic, logical or mechanistic, the inter-connective developmental relations themselves, within the continuum of the overall environment (as with nature or the cosmos), would also essentially be "capable of drawing us into an [*Agapastic*] relationship of love or caring."[500] To Peirce (from Anderson), we must endeavor to be rooted in the belief "that man's mind must have been attuned to the truth of things in order to discover what he has discovered." Careful concern and inevitably knowing *how* to creatively act and manifest within that discovery hinge on the "regulative hope of an affinity between inquiry and nature" and thus between creative endeavors and environment.[501] Like society's, nature's or the cosmos' generalities, truly creative and caring thought shifts away from singular, reductivist ideas or our own individual (selfish) concerns as conclusions to co-substantive, connective, inclusive, continuative, and holistic views toward the environment. This reiterates environmentalist's (David Orr and others) notion of connectivity in lieu of stressing individualist concerns discussed in the

environmental discourse introduction. However, in Peirce's view, deeply guiding

human action, as with creativity, "one's whole manner of conduct" and what is

considered of "great character," is thoughtful recognition of the divine principle of

unconditional, cherishing, and nurturing, selfless-love.[502] This love stems from an innate

ability of the active-agent to 'love all creation' and know the divine spark (divine

creative intellect) in all manifestations. Within this frame, this form of contemplation-

within-action, together with rigor of habit (hard work), attributes one's endeavors with

analogous qualities of the universal intellect.[503]

To the *Critical Environmentalist* stance, these person-like 'caring' and 'meaning-

charged' attributes of the greater domain, each with differing interpretive positions,

occur at multiple access points and each initially indicate equivocal affective qualities

and network relations. Reiterating the notion of the *Umwelt*, although we may

experience and are stakeholders in the same environment in all its continuities, we

interpret it into meaningfully differing and particular ways. Such is the semiotic

Umwelt, the meaning-filled environment (with respect here to Kaleva). However, each

retains the same essential attributes (that is monadic) and capabilities (agency) for this

form of connectivity to occur. To Pierce, mediating between these states is best suited to

this '*agapastic,*' creative love. In this mode, we can see and carefully attend to the

environmental within its generalities as well as reciprocally within individual concerns,

emulating the sublime permeating and inter-connective universality of concern, that is,

'Divine Love,' the highest form of love. From this, our values and meanings become

intertwined, reinforced, and raised to a higher order, thus becoming more vital to our overall well-being.

When we draw in the environment at its multiple levels, as multiple neighboring familiarities, we expend our own sense of being, knowing, and our 'horizons' of possible experience. However, to Anderson, when we focus on the generality of concern, nature's universal habits and rules, "we enable ourselves to effect this expansion by moving continuously from one individual setting [or situation] to other." [504] Looking again at Van Buren's discussion of 'critical environmental hermeneutics, the environment can be seen from multiple standpoints, multiple horizons, each with their own disparate concerns; although all sharing the same environment (as also with the concept of *Umwelt*). To the Peirceian model however, these purely individual self-guided interests tend to impede the development of overall knowledge and its connectivity of concern. Mediating individuated concerns, which are also time dependent, requires the 'meeting of horizons' along common concerns toward common desires (as flux, hinge-points of possibilities). To the current discussion, one acts within the universal qualities that address all concerns at all times, but by knowing well at least one other particular circumstance as indicative of the overall, we may begin to attend to others.

We see this occur within case-studies of architecture, environmental design, or on more complex, urban design or community development situations. A single house for instance, when designed to a particular person's needs usually best serves other persons as well, because of the acknowledgement that the 'personality' already carries

attributes of what is common to others, and is designed in accordance. On the other hand, the generalizing and instrumentalism of housing types, as seen in mass production developer housing, tends to not address any particular concerns other that market driven ones. The developer model is generally designed away from particular concerns, as in away from distinct humanly needs, functions, or environmental site conditions, etc, and thus falls short of those attributes necessarily related to either distinct human or environmental concerns. Within urban design case-studies, we also see multiple concerns merging into a single problematic, as we will highlight in the subsequent chapters. These case-studies show that individual concerns are best resolved when placed along-side in interactive co-tutoring positions to other's individuated concerns within an overall framework for mutual well-being and connectivity. In addition, we find what works well in one urban situation can aid us in working our problems with another. However, we must note that this is not promoting an overall instrumentalist or simply precedent approach. One situation does not dictate, ordinate, or override another; it simply provides an informative framework or 'generality of concern.' Within this, one embraces the universal relations that occur across individualist manifestations and across historic epochs. As an agent for creative action within a complex situation, one knows well the other to learn from it, what is best suited for it, what exemplifies its condition; but one incorporates what is distinct as well to other particularities, for 'identity' in itself is a general idea that manifests in multiple possibilities. This reiterates what Gadamer calls a "fusion of horizons," as a meeting point of concerns. As with each environmental component, distinct personalities and particular places must still retain their authentic

and immanent identities and personalities, albeit informed and co-substantiated by a framework of concern, perhaps inter-subjective in nature. Within one's actions, the Agapastic *telos* of cherishing mutual developmental or creative perfection is considered here the driving force or *élan vital* (with respect to Henri Bergson) for this critical connectiveness and mutual well-being.

To the *Critical Environmentalist* stance, following C. S. Peirce, the *telos* of creative perfection (*synechism*) is best when consciously and critically mediated toward perfection at multiple levels, inclusive of one's own self-betterment as a key, embodied component. One's personal identity and well-being is at once formed through co-substantiation and perfection of multiple states. Mutual growth, and the love that engenders it, must take place within the general conditions and "regulative guidance of ideals" (laws, axiomatic),[505] that which the environment, as the 'continuative' or 'generality of concern' for our habitus, sets multiple levels of regulative conditions. To Peirce (from Anderson), individual agents were 'systems of living habits', 'loci of purposes', that potentially comprise unified purposes, endeavoring 'to embody general ideas in art-creations, in utilities, and above all in theoretical cognition."[506]

When one acts critically with love and care (with mutual empathy) as the primary impetus toward creative perfection (*synechism*) of the 'other' as or over one's self, be it of philosophical, epistemological, ethical, natural, cultural, or of the greater environmental 'other,' particular *invested care* is taken. To Peirce, the environment (primarily overall nature or cosmos) is something representing essential truth, its own ethical and epistemological bearing, and something worth revering as sacred, but also

something to aspire to being essentially and consciously familiar and connected.[507] An equivalent ethico-aesthetic ideal wrapped up in environmental continuity and a telos of mutual and multivariate *synechism* is essential within the *Critical Environmentalist* framework. The best form of creative perfection of the other is a co-substantiating and critically bound win-win, for the 'other' in this model is immanently reciprocal.

The *Axiological* component of the *Critical Environmentalist* position fosters understanding what meanings are being formed and how these meanings are evaluated (made legitimate in their settings) and how the components form ethical relations. In this, the systemization must lead into an understanding of the axiological dimensions if it is to have meaning and viability to its engaging participants (again it take us to the essential knowing-agents as being empowered in the creation of their life-place). The system cannot remove the operational and meaning-making capacities of its participants, but instead should lead into how that systemization can lead to an increased agency, identity, authenticity, understanding, and creative potential through all its components working together in parity toward common goals in place. The emancipated or enabled agent as a dispositive of the system must know their formation community with others specific to their place, and how meanings and values are formed as vital to existence and our reasons to produce.

While they may seem intrinsic and separable from our world and experiences, these notions are often overlooked as essential to our well-being and thus a basis for design in-kind. Since there can be no separation between the universe (and the environment) and humankind's imaginability of it to bring it into our knowing and

being, this axiological component permeates all the others and provides a substantiation for action. It is the dynamically cohesive in-between that is vital to the human condition. Here, the authenticity of experiences and significant meanings, values, and ethics are drawn from socio-communal relationships and interdependencies, even from the ideals of *care* or *love*, mutual empathies between identities within an overall shared community of affairs, affections (Spinozian view), needs, and associations. This conceptual position most closely aligns with the goals of social criticality, the drawing in of multiple levels of interpretation and their inevitable manifestations and effects upon their 'others.' In the development of our community developments, we are interested in how knowledge (and meaning) is formed socio-culturally and how their participants dynamically interact with each other toward the co-creation of their *life-places* and how acknowledgement and negotiation of this interplay can play a role in future creative actions.

Inter-Operational and Transformative Synthesis

Within environmental epistemology different codes, registers and regimes of knowledge, savoirs and thinking emerge, interrelating and interweaving the Real, the Imaginary and the Symbolic; not only for the epistemological "demand" of the diverse ontological orders to have different forms of reasoning, of logic, of research methods and verification procedures, but because of the new ways in which the Real and the Symbolic are entwined by strategies of knowledge. That is why knowledge is never neutral nor purely objective. Beyond subjective purpose and phenomenological intentionality, knowledge is constituted (and cut across) by power strategies that are grounded, assimilated and embodied in matter, in life and in being.
    - Enrique Leff (UNEP) "Nature, Culture, Sustainability" [508]

Finally, extending Necdet Teymur's notion that 'environmental discourse' by its nature must also be 'operational,' that nothing (no theory, concept, or idea by itself) purely exists in a vacuum, the conglomeration of ideas have to be centered on common goals or modes of application in context.[509] Poetically, to paraphrase a notion from

Ludwig Wittgenstein in relation, *only in the flow of life do words* (as with architecture, concepts, and any other human construct) *gain meaning and significance.*[510] In this mode, socio-environmental action gains its meaning and significance in a *purposeful* mode, when it engages the multifaceted problem of its inception directly and leads towards effective and co-beneficial transformation of its multiple aspects. As such, these proposed conceptual modes, the agential components involved, and their manifesting knowledges must be formed with each other in an **inter-operational mode** – as in working together as a living system, *active, productive, constructive, transformative, revisionary*, *emancipatory*, and *applicable* to the issues-at-hand.

To Enrique Leff, since the world is being "construed and destroyed by forms and strategies of knowledge," we must seek ways of mediation between modes of epistemic operation that are co-beneficial to the greater, complex picture.[511] The over-dominant procrustean trend to reduce and compartmentalize knowledge greatly hinders the development of multifaceted or multi-dimensional solutions in regard to the overtly 'ill-defined' problems we actually face. The complex nature of the environment must be seen as a total set of connected problems and root causes (with respect to David Orr) that can in-turn become effective forces toward equivalently interconnected approaches. Because of its holonic and systemic nature, the *Critical Environmentalist* position works best when the system is not placed in self- or non-referential (*ex nihilo)*, reductivist or within over dominating, singular modes. It must be allowed to engage multiplicatively and hermeneutically, where it can epistemologically prosper, dialogically steeped in the complex actualities of the greater socio-environment, the rich *life-place*. In essence, the

proposed position de-centers and moves toward peripheries, creates interrelations and networks, not just singular centers, but as lots of multi-focal positions working together in co-creative, communicative, and multi-referential dialog. It works in multiplicities and seeks mediation within primal chaos to empower its parts and form a natural ethic, a sort of *autopoiesis*, albeit engaged with creative human spirit, interpretation, and intervention.

The inter-operational mode also refers back to an understanding of Michel Foucault's 'dispositive analysis,' wherein the parts and parcel of a working mechanism (an *assemblage*) are interchangeable and co-unsubstantiated within their complex epistemes. We endeavor to view knowledge as a system - that is, architectonically to identify key connective parts, to negotiate the effective jointures between them, to significantly mediate how they *operate* with each other, and to develop a rich palette for create action. Each of these categorical positions can be seen as sub-structures or meta-theories (like in critical social theory's stance) within a greater system of epistemes and associated operations upon which we can negotiate across viewpoints at multiple scales to develop working and adaptable scaffolds of multi-methodological approaches in each context. In this mode, we endeavor to understand how facets co-form each other and their context to interrelate in a total, nested system of epistemes and operations. Here inter-operation, along with axiology and reflexive mediation are particularly active components which enable others within the system.

To the human condition, the space of inhabitation is never neutral, but multiplicatively filled with intentions, dynamics, and human social productions that must

be worked together if they are to be most beneficially effective. Holistically, in regard to the total environmental condition and our actions within it, we need to understand how each part or vested stakeholder knows and operates individually and in relation to others in order to negotiate any sense of overall inter-operability. The inter-operational mode is therefore mutually transformative and revisionary, as it intrinsically requires the initial operating agencies and their many epistemic conditions drawn into direct relationships with the problem. Herein, the proposed position engages the relevant issues of socio-environmental, architectural development at an urban and community level from the acknowledgement of consciously aware, epistemologically accountable self(s) (as individuals, stakeholders), their traditionally-rooted community and social dynamics, their interconnected and dialogic nature for knowledge integration, their effective and creative capacities, their formative axiological or meaning, values, and ethics generating modes,[512] and as such their significant co- or inter- operative applications within a total set of conditions for life, identity, authentic experience, and emancipatory well-being.

A commendable attribute of architecture, as supplemental to both critical social theory and environmental discourse, is that its mode is always operational and directed toward creative application and subsequent manifestation. In this, the latter theoretical positions do not fully engage human-kind's constant pattern of re-making and articulation of the environment into our inhabited and meaningful life-place. They often overlook or negate the significance of the built environment in-progress as co-substantive with greater issues, to develop ways *en route* while the operation is actually happening. On the other hand, architectural endeavors are not always informed and

substantiated by the analytical value of the other epistemic positions, as critical to its

formation. Architectural endeavors form epistemically within the supportive discourse

based on their application into manifested spatially inhabited artifacts. While its basic

analytical functions are always directed toward making the world, its informative parts

as basis for creative action can be enhanced by the proposed hybrid conceptual position

to build a greater palette for making and thus a developing greater potential viability for

its place within a dynamically ever-changing world. All categorical positions here have

their distinct points-of-views and operational methods. The bringing together of these

views forms a more holistic picture, not just *ex post facto* analysis, but one that has the

capacity to work (or inter-operate) in process. As urban and community fabrics form

organically and emergently through interaction of its varying components, understanding

these multi-level operatives in conjunction within the greater environment is of vital

concern. These notions and their associated multi-methodological approaches will be

further elaborated and shown in context within the case studies following this chapter.

Grafting Architectural Positions Within the Projected Framework

Our hierarchy of associations is woven into a modulated continuum representing the
true complexity of human associations.... We must evolve an architecture from the fabric
of life itself, an equivalent of the complexity of our way of thought, of our passion
for the natural world and our belief in the ability of man.
      -Alison and Peter Smithson, *Team 10 Primer*, "Statement of Intentions" [513]

The vitality of architecture can be seen as distinctly effective in both drawing its

knowledge from the environment (an environment that is also epistemological forming)

as well as environmentally (and thus epistemologically) effective and forming, thus

reciprocally co-forming. To architect Lord Norman Foster, in an interview on CNN

International, "what makes me feel good [happy] about architecture, is when the environment, if I use it in the broadest sense, has been taken seriously by everybody involved and that they've insisted on quality." To him, "the quality of that environment effects the quality of our everyday lives" about society and our collective social agendas (inclusive of semiotics and meanings that are formed). He adds that the quality of architecture is about 'attitude and the quality of thought' involved.[514] If played responsibly in this way, architecture both builds upon the physical manifestations of its epistemological dispositions within its socio-cultural environments, but also within its physical geographic and ecological environments (place, situation). In this, architecture and its operative mode in manifesting the physical world we inhabit is a key position between social practice and environmental concerns, leading toward a total quality of collective well-being. The proponents of architectural knowledge (its participating agents of constructive action) are mandated to critically acknowledge (awareness) that it has to be realized within the bigger epistemological picture and in relation to the greater environmental domain as self-evident; such is the fundamental nature of a *Critical Environmentalist* position as a key starting point.

To this, it is important to understand that architectural endeavors intrinsically are always situated contextually and therefore must correspond holistically within the world of spatial constructions, especially with the epistemic of architectural discourse as part of that construction. To Diana Agrest, in *Architecture from Without – Theoretical Framings for a Critical Practice,* creative acts in architecture as part of a greater system intrinsically (and thus architectonically) establish relations between and within itself and

other systems. Substantiating a more bottom-up and intrinsic approach (in lieu of top-down or alienated), she refers to Alison and Peter Smithson of *Team 10's* statement of intentions: "Our hierarchy of associations is woven into a modulated continuum representing the true complexity of human associations.... We must evolve an architecture from the fabric of life itself, an equivalent of the complexity of our way of thought, of our passion for the natural world and our belief in the ability of man."[515] Engaged with a vital, epistemological framework, designs (particularly urban and socio-community oriented ones) must emerge from pluralistic and interactive, systemic contexts to consequently respond with meaningful courses of action in the greater domain. Architectural discourse, as a foundation for this framework, needs to account for its own epistemic structure as the medium where creative production initiates with corresponding models that foster a productive and effective interchange of ideas from broad ranges. The positive transformation of the structural framework as the medium for the exchange of knowledge in-turn transforms the corresponding social structure and thus critical human consciousness where knowledge constructions occur (a clear, critical social theory standpoint). The process of understanding is the transforming of knowledge into productive action. In order to transform the structure and viably address significant world issues in a meaningful and effective way, one is mandated to understand the epistemic system as a whole and be able to identify, organize and thus integrate the aggregate components and properties affecting architectural discourse.

As knowledge increases about the systemic nature of the world with its complex environmental concerns, cooperation and critical cross-pollination (the sharing of

knowledge for a shared concern) becomes more and more crucial. It often requires 'letting-go' of one's own, in order to let more knowledge (from the 'other') come in that might in-turn be more inclusively informative and co-substantiating. The long-term viability of architectural endeavors is critically judged within a systemic framework of affairs; therefore knowing its relation to critical social praxis and its *place* or 'fit' within and throughout the greater, shared environment is essential. The framework for architectural knowledge needs to account for its own epistemic structure as the medium where creative production initiates with corresponding models that foster a productive and effective interchange of ideas from broad ranges, while also co-substantiating in-place local identities and meanings. In order for current architectural discourse to shift its paradigmatic episteme toward the current environmental complexities it faces, an equally multifaceted critical epistemology is necessitated, one that establishes essential reconnections within our total, environmental *life-place*.

Essentially, the problematic (from a discourse analysis point-of-view) is that architectural discourse typically has not directly interconnected nor formally related with the totality of the built environment or with its components within critical social theory, social praxis, and epistemology (both knowledge forming and itself forming from knowledge), much less greater environmental issues as a composite architectonic. While modern architecture develops side-by-side with modern philosophy and social theory, the current state of architecture is disparate or at odds with the actual modern state of things (all environmental and epistemologically forming). While we face many modern problems that architecture could facilitate, current discourse in architecture indicates that

it is often at odds with critical social theory's issues and emancipatory goals in that it continues to reside in dominating reductivist, modernistic, technological, conceptual, and over-acculturated, detached representations.   The hubris of modern architecture, as reiterated by such person as Gideon, is that it does not even follow its own original ideological position as a break from bourgeois elitism, a detached aesthetic, and a reductivist universalism (the enlightenment mode). We replaced one form of conservative ideology and stylistic preference for another, which may be even worse. It is often a case of simply understanding that ignorance or even forgetfulness of knowledge can also be produced by dominant (hegemonic) knowledge, albeit here over-acculturated to be reductivist, virtual, detached, disparate, false, or simply not representing the true state of affairs. In discourse (or even dispositive) analysis, we can acknowledge a dominant western (even colonial) mindset, one that views the world outside of its range of thought as corrupt or alienable, and as such approaches the complexities of actual problems from reductivist or detached epistemological stances from the enlarged palette of knowledge that could better inform architectural endeavors, especially in urban settings as composed of many intersection with other knowledge (and cultural) domains.

Since environmental issues are essentially linked with social concerns and since architecture is essentially a social practice, integrating architectural practice with its key theoretical components in critical social theory and environmentalism is essential. The connective catalyst for all this inquiry is an interchanging composite-whole of human socio-cultural conditions and the greater eco-environment, and as this interchange

essentially involves knowing- and acting-agents as the primary facilitators, it must be thought out and engaged epistemologically at multiple levels or scales of engagement. All issues in this greater composite are epistemological - that is, based on how we (as primary effectual agents) know the world, know it as multifaceted and differentiated in both knowledge and action, but more essentially how we productively interact (correspond) and manifest based upon our knowledges in effectual relation.   In addition, knowledge (as with theory) must be grounded in the common environmental condition, the complex very-real of both social crises and greater environment concerns. In the long run, this research brings to light how knowledge is manifested within these urban and community settings as collective constructions and if we are to correspond in a responsible way, we are therefore mandated to be able to critically incorporate an array of knowledges as informing and guiding to any design procedure.

Critical social theory, and its mediative mode of thinking and inquiry, fosters ways of systematically analyzing and organizing, multi-dimensional social factors around complex problems or crises. In the case of this research, its analytical and/or conceptual tools along with subsequent methodologies can play a substantiating role for architecture, as a distinct social practice among others. Designing within the constructs of a total, inclusive environment produces corresponding solutions by supplying continued vitality to our decision making processes and being reciprocally and critically accountable within the world we engage. Because our *life-place* is multi-interpreted (critically hermeneutic and thus self-socially constructive), the environment is therefore not neutral or background space, but the active, catalyzing element. The agential point,

and its intrinsic link to critical social theory, is that stakeholders (participating, knowing agents) within this space are accountable and co-effective.

The total environment, thought of here as our essential *life-place*, must be known intimately from diverse points of view and mediated in how it forms in varying places for our human condition. An approach to the built environment must take into account its effect within ecological ranges as well as socio-cultural milieus in such a way to ground our creative responses in both the respective constraints of the environment as well as the enriched palette it has to offer. But significantly, it must also play a role to emancipate its inhabiting agents from the crisis of false consciousness by empowering agents to critical self-awareness, accountability, active participation/engagement, and spiritual regeneration with-in and of the co-creation of their *life-place,* a place reciprocally where creative endeavors thrive.

In architectural theory, Critical Regionalism, as proposed by Kenneth Frampton, Alexander Tzonis, Liane Lefaivre, and others, provides a useful critical theory framework upon which to graft these components and a stepping-stone as a point of departure. Frampton basically states that the greater environment faces an expanding 'scenographic' program of world globalism (a universalization of conglomerates into a global image),[516] while at the same time there are increasing levels of systemic complexity that inevitably results in a loss of identity and local value or emphases (place-specific identity, locally graspable existence).[517] To *Critical Environmentalism*, if the world-view (*Weltenschauung,* as in our first thematic introductory image), especially toward the environment (*Umwelt)* as a whole, is spread too horizontally (thin),

then there is a loss in the vertical dimension (axiological depth, meaning and significance, identity, even spirituality). If our approaches are too thin, how are we to correspond to the complexities we face? If this is the case, what would be a corresponding didactic (or discourse, sets of dispositives) and how would it manifest collectively and vitally across domains in the co-construction of our *life-place*?[518] Heuristically (in learning, as well as operational in practice), it is systemically critical to understand how the components of knowledge are interpreted, assembled, and made legitimate, across the board as well as in epistemic or axiological depth, spatially as a relation between the specificity of place and identity while also placing it in the greater, global domain of affairs. The multifaceted domains of knowledge informing the total environment and manifesting at varying scales (being that all manifestations carry epistemic capacity) have to be cross-referenced to produce co-enabling understandings and a co-operational *ways-of-being*. The question for this research remains: How to translate this into an epistemic framework of thought for a socio-environmentally oriented architectural discourse and practice, one that can be put into productive action.

The proposed *Critical Environmentalist* position is supported by a more recent and similar proposition, as put forth by Steven Moore in *Place and Technology* (2001). Here, Moore extends the ideological position of *Critical Regionalism* as proposed by Kenneth Frampton, stating that it must be "lifted from its roots in dialectic logic and critical theory" and grafted to a "dialogic hermeneutic construct" (an underlying aspect of critical theory not fully incorporated). To Moore, it is significant to "transplant the *Critical Regionalism* hypothesis from an *alienated logic* (lost in universal or generalized

notions) dependent upon transcendental or oppositional interpretations of reality to a communicative or *conversational logic"* (as in *dialogic*, similar to that propose by Habermas) and relations inter-dependent upon emergent and collective interpretations of reality.[519] While *Critical Regionalism* extends the formal 'regionalist' habit (in concept and practice) of reproducing one-to-one relations between distinct regional features in place and corresponding human constructs to a dialectic mode of production that is also inclusive of other, often oppositional, critically informing views (other locales, universal ideals, globalism, modern sciences, technologies), *Critical Environmentalism* in kind projects a multi-dimensional view toward environmental issues and how these co-form with human creative endeavors as dialogically co-substantive and co-interpreted. This added projection brings to the playing field the environmentalist notion of an agential co-forming of epistemological and axiological dimensions that form in an enriched systemic relation to the greater domain, engaged socio-communally as well as ecologically, geographically, biologically, *et al,* a hermeneutic conversation worth having and upon which to build extraordinary dimensional value.

To Moore, multiple stakeholders play vested roles in the co-development of a sustainable community. However, stakeholders have competing or conflicting values/definitions within such intrinsic concepts and 'technology' and 'place' (and the sustaining of a community around such issues) that must be resolved together for the projects to work and to be sustaining for all parties involved. He brings to light in a case study of a small community development that the overarching hegemonies established by those in empowered positions (interests and agendas of the developmental or investor

groups, architectural designers, vis-à-vis the local citizen stakeholders who inhabit a community) can unwittingly overwrite the vested, inhabiting agents (sometimes even violently) as some of our previous top-down models have done, thus ironically suppressing the self-worth, self-determination, and sustainable capacities of the very agents that are in need of benefit, which in-turn becomes a loss for all.[520] To this, all identifiable vested stakeholders, the active agents involved, must be engaged together on common grounds (a meeting of horizons in the shared common-space of existence as a catalyst) to thus foster co-enabled capacities for each others' self-creation, co-formation, and co-benefit as part of a caring conversation, inclusive of multi-dimension environmental conditions.

Through his case study analysis, Moore provides support for a "renovation of Frampton's hypothesis as a 'non-modern' theory of architecture" by "rejecting the dialectic separation of human subjects and nonhuman objects as the foundation of Critical Regionalism" and instead proposes that it be grafted to a "hermeneutic-dialogic" paradigm that reconciles his position with "progressive environmentalism."[521] Following the composite critical theory and environmental stances, as also similarly with Moore, the meaning of "dialogic relationship" is intended to be conversational, or hermeneutic, within meditative (even caring) and co-constructive socio-communal practice and the "quality of human agreements" that *take place* within the specificities of their environment (authentic in context), as opposed to those agreements we understand "as purely mental constructs" (independent of the world of constructions), corresponding with Kant's critique of reason in itself.[522] This dialogic adds a dynamic spatial as well as

social dimension, thus vitally linking knowledge construction and its participatory interchange as constructive of and immanent within its distinct *place*. Moreover, these positions must be interwoven with current environmental knowledge at larger scales, a dialogue with the greater systemic conditions for knowledge and the common-ground upon which to commune, even at global levels. For sustainable practices, the framework of knowledge has to engage social practice, its agential empowering modes, and critical methods of inquiry, as well as that physicality which grounds knowledge and action.

In many ways, this research can be seen as also fostering a revisionary, productive extension of critical regionalism through a reconciled, composite position between critical social theory and a *progressive and critical environmentalism*, further informed by their cross-referential hermeneutic-phenomenology and critical constructivist epistemologies, leading to productive creative action.[523] Following Moore's and other's leads, this research promotes communal and dialogic participation in normative practices (in lieu of an alienated critique of conventional practices) that are "regenerative" and "life-enhancing" and that "unite quasi-subject and quasi-objects" (a break down of philosophical dualism, much like what Teymur discussed in regard to environmental discourse) within a single set of epistemic conditions for the socio-environmental practice (action).[524] To Moore, a *"regenerative architecture"* (as the proposed *Critical Environmentalist* position also fosters) "would inhabit the everyday interstices of local/global networks and participatory democracy."[525] It would be a combinatory,[526] emergent mode based on local conditions (*its own dynamic terms of epistemic reference)* spread out equally across a global scale, each component equally

critical and co-enabling of the other in the forming of human society and its built environment.[527] These tenets foster an already-present, densely saturated, spatially dialogic fabric (epistemic framework) engaged with its participants at multiple scales that sets the conditions for its own being-in-place (a *meta-epistemic*) and its own co-creative formation.

While Moore promotes a "methodological fit,"[528] *Critical Environmentalism* extends this position to a 'multi-methodological fit' within an acknowledged already-enriched or engorged epistemological framework,' more supportive of the interplay between the critical social theorist modes and environmental thought. Based also within social theory's notion of the '*spatial turn' ('space and habitus',* with respect to Pierre Bourdieu), *Critical Environmentalism* expands Critical Regionalism's ideological notion of a "*tectonic of region*"[529] to more of a critical '*architectonic of environment*,' wherein creative construction is based within the dynamic, multi-dimensional spatial episteme (a total set of conditions) for socio-environmental practice. In this, it reinforces Kant's *architectonic* philosophy, a foundation for critical modern philosophy that knowledge (as with its manifested discourse, action, dispositives, and artifacts) "belongs to a system [or systems of inquiry]," primarily in regards to human action as part of a total socio-communal, environmental system. This shift along Frampton's lines of "Critical Regionalism," moves tectonic actions (the craft of making connections) into being critically linked with multiple (on divergent) forms of knowledge converging simultaneously into any social sphere or place (hermeneutically, *how* we know the world) and *how* that knowledge is validated and made legitimate both within its locality

as well as within a greater environmental community of affairs. This supports

Aristotle's' concept (as also fostered by Gadamer), that our '*techne*' is more associated

with our 'reasons to produce' and the epistemic framework for our reasons, not just the

artifacts of production *per se* (a detached rational for aesthetic operations). In this case,

it is a social systemization of this knowledge, an episteme (a total set of relations that

form knowledge) that will directly correspond within and throughout the total

environment.

The idea of a "spatial turn," as proposed by Bourdieu and others along this line,

speaks of "space and habitus" as correspondence between multiplicities within the

physical built world, personally embodied social order, human condition, beliefs and

knowing, the embodied habitus and spatial milieu as dynamically co-substantive. This

point of view in the social sciences discusses the notions of socio-cultural origins of

space versus spatial origins of social orders (dominant social order/dominant episteme).

[530] Space is not an empty container or backdrop (with respect to Jürgen Habermas) to be

filled with political domains, ideas, and human history, as much as it plays a role in

shaping the components of history and the social order as well.   Similarly, Henri

Lefebvre holds that space is more than an inert setting or simply a container in which

life/events happens. Space is formed by and is a dynamic mediator for symbolism, daily

routine, mental activities, communities, and built form. Herein, as also pointed out by

environmental positions such as Preston, Code, and others, previously in this research,

the spatio-environmental field is composed physically and socially, therefore the

composition of which as a usable palette must be formally (systematically) made

epistemically operative to our endeavors. To many in this area, the spatial turn is viewed as exploration into the multifaceted conceptualizations of the phenomenological understanding of space and place. In this, the analysis brings to the surface the more overlooked personal or intimate dimensions of spatial formations and their relations to human inhabitation. Meaning is formed dynamically and spatially in direct relation to the place of occurrence and its acting agencies.[531]

This set of concepts plays a significant role in the development of our urban fabrics and communities. It draws critical components necessary to environmentalism in architecture tighter together into a collective and inclusively dynamic episteme, albeit manifesting singularly in distinct places. Moreover, it proposes to form a guiding epistemological framework as the enriched, vibrant re-source of creative thinking and action, (applied to the root cause, as the famous environmentalist David Orr would put it) which would also foster continuous socio-environmental inquiry that extends into normative architectural endeavors, both in educational and professional practice. If complex design processes can anticipate and embrace these environmental divergences in a productive manner, then the design can be more effective in corresponding in an equivocally multifaceted way to the greater complexities of the environment.

Chapter IV Conclusions

Therefore, the prevailing and popular contemporary desire to circumscribe the epistemological foundations of our discipline concerns primarily the appropriateness of language to modulate our actions as architects, but can never pretend to "reduce" or "control" its meaning. The issue is to name the kind of discourse that may help us better articulate the place which our design of the built environment may play in the technological society at the end of the millennium.
- Alberto Pérez-Gómez, "Hermeneutics as Architectural Discourse" [532]

What then is the *critical environment* for architecture and socio-spatial structures in the global world today? *What* is the epistemic framework (and *how* does it form) that sets the conditions for thought and thus constructions to produce an architecture that is not only immanent, but also necessary to the identity for each particular place? We find that our *life-place*, as especially seen in our urban and community developments, forms out of complex relationships composed within a multifaceted array of co-effective socio-environmental intersections. A critical understanding of this complexity before designing architectural interventions within it is crucial to its long-term, communal and systemic vitality. This architecture would become a vital part of its own framework, one that is the very substantiating essence of being for its participants. An architectural creation must retain the mnemonic fabric of the distinct place, beliefs, identities, and community where it resides, while also addressing its place within the greater environmental domain. This thinking process involved with both architecture and urban design must also take into account the intangible aspects of being and identity in a place - that is, the way in which the particular place is constituted through the narrative memories of its inhabitants and the role of those memories in asserting primacy to their being and existence, both material and ephemeral. Fundamental knowledge of the

society is essential, since it is the impetus to referentially understand change and ideology, but also how our social formations play a long-term role in greater environmental concerns as the co-substantial basis for our meaningful well-being.

The research weaves together supportive elements within the current epistemological frameworks of *critical social theory* (critical epistemology and the social sciences), *environmentalism*, and *architectural* (and environmental design) discourse as a way to establish an instrumental and substantiating critical epistemological framework, fostering a viable, integrative, and long-term paradigm for *critical environmentalism* for architecture, particularly as it can be applied in complex urban and community design settings.[533] Thus, *Critical Environmentalism* is a composite between critical socio-cultural- and eco-environmental issues aligned with axiological and inter-operational, constructive practices and their manifested, inhabited forms. The results of the comparative analysis and synthesis of various approaches and sources yield usable conceptual tools and patterns within leading philosophies and reveal connections between varying facets of seemingly variant epistemic frameworks to propose an applicable, heuristic model for architecture, informed by an inclusive *critical social approach to environmentalism.* Within this, it seeks critical methodological and ideological rapprochement, well-being, creativity, identity, authenticity, and raised sense-of- self and -place for its participants at multiple levels (including the architect designer) in the co-construction (co-formation, co-substantiation) of our shared *life- place*.

Leff aptly describes this critical environmental stance in terms of a "political ecology" (as perhaps a poli-fold, socio-environment) that "deals with knowledge that invades and penetrates the body of life: the genetic structure of organisms and the ecological organization of the biosphere."[534] Beyond the conceptual separations between ontological and epistemological philosophies (similarly as Teymur discusses) and matter-mind dualism (material and epistemic productions), a framework of thought emerges that bridges the real, environmental life-place with our knowledge (epistemic or rationale) in terms of both *embodiment* and *embeddedness* of knowledge and our human abilities to interpret and create both material and epistemic productions within geographic territories, geologies, bio-ecological formations, social structurations, and cultural bearings.

As an underlying guide and set of tools for community and social development, this epistemological framework advocates effective and continuative interchange of knowledge and co-enabling rapprochement between divergent modes of thought in the co-constructive processes of our total *life-place*. The goal is a de-centering of divergent views concerning the environment and a re-centering on the interaction between those views that can significantly inform architectural endeavors. The purpose of this study is to promote an epistemology that can facilitate multi-methodological approaches to environmental design and architecture. It intends to further negotiate possible working, systemic models for both interdisciplinary and interactive (constructivist and dynamic) architecture to correspond to a complex society in which it resides. It promotes a new model that would facilitate a more significant role and place, thus increasing vitality in

the greater domain. The following chapter and its sub-headings, present a series of case-studies and applicative studies on urban design, regional planning, and community development, both formally built projects in process and mock scenarios in pedagogical settings.   Herein are presented varying capacities of the basic components working in conjunction within multiple contexts. The case-studies engage these ideas in varying ways within various analysis and design scenarios. The goal of these case-studies for this research is to show representative approaches, in part or parcel, that support the *Critical Environmentalist* paradigm in application.

CHAPTER V

SUPPORTING CASE STUDY RESEARCH AND APPLICATIVE STUDIES

Case Study References

As supportive of the *Critical Environmentalist* position, this section of the research presents a series of urban and regional design processes incorporated within model case studies and extended applications in architectural education (studio) settings. This section begins with *ETH-UNS (Swiss Technical University) Zentrum Zürich Nord & Basel regional studies (Switzerland)*, then discusses urban and regional co-operational developments in Freiburg am Breisgau and Mannheim (Germany) as case-models along the lines of this research. The chapter will then proceed into a series of three architectural, urban design and community oriented, studio scenarios implemented by the author at the School of Architecture, Southern Illinois University, Carbondale. These studio projects, as applicative studies, are set in the contexts of the London UK, New Orleans, and Rural American Heartland Towns and are respectively arranged in scale (large to small) to incorporate various aspects of the previous case-models and their multi-dimensional methodologies, primarily their social hermeneutic approaches along with their stakeholder identification and knowledge integration tools directed toward interconnected urban design reasonings and community interventions. Various conceptual elements of the proposed *Critical Environmentalist* position (during its developmental stages) are brought to the surface in conjunction as discourse and design modifiers, but also to focus the projects on the multi-faceted socio-enviroenmtal conditions for creative design processes.

ETH Zurich-Nord

The first case study reference for this research establishes a particularly useful multi-methodological model developed by the *ETH-UNS Zentrum Zürich Nord.* Herein is presented a stakeholder-based, embedded case study which promotes effective '*Knowledge Integration*' for urban- and regional-scale socio-environmental design. The model is best illustrated academically within working case studies wherein inquiry and design processes initiate with corresponding approaches that foster productive and effective interchanges of ideas from broad ranges *and* act distinctly within a certain community's views on a particular subject at a particular point in time.[535] This integration-design process was headed by Roland Scholtz and Olaf Tietje, whose "main objective has been to obtain an encompassing understanding of the genesis, dynamics, and impacts of the complex relationships between natural systems and social or technical systems," shaped by overall environmental issues for informed urban [and regional] development. In this, they were looking for a complex, relevant ground breaking case to advance urban and regional design theories motivated by the common goal of informed, sustainable environmental development.[536] The case study shows that participating stake-holders gain a deeper insight into complex problems from objective and divergent points-of-view and thus leads to inclusive environmental thinking, design, and implementation. To Robert K. Yin on the case study subject, to understand the case, you must understand it equivalently as a system, "a system development particularly asserting the right balance between change and stability"[537]. As discussed in our target proposal on urban issues and environmental crises, *Zurich-Nord*, suffered from

multilevel social, ecological and ecological decline, brought on in-part by disaster and unaccountable industrial and coal mining facilities, was in need of this balance of affairs and a viable, corresponding solution beneficial to all parties.

This approach presented here has distinct roots in the critical-hermeneutic standpoint, similarly as presented by Gadamer, that critical understanding emerges through communicative interaction seeking a "fusion of horizons" between participants, through which an 'authority' and applicability emerge.[538] Hermeneutics appropriates knowledge through iterative, interpretive processes that proceed to fine-tune the system, where the inquirer(s) can construct the world and in-turn allows for new unfoldings. Gadamer's view of the hermeneutic processes entails circular reiteration of the three basic components: *interpretation*, *understanding*, and inevitable *application*. In this way, a practical hermeneutic is a viable proposal to serve social purposes as in urban design processes, in this case, the educative design processes within a community in productive action and its relation to an overall, expanding view toward knowledge integration into greater systems of thought. Understanding is interpretive and grounded in action (*in situ*) with the addedness of our rationale to organize action.[539]

Like the hermeneutic dialogic, the ciphers of critically understanding complex urban-environmental situations start with dialogically analyzing, mapping, and modeling a discursive and categorical component structure through an underlying rationale that seeks dialectic synthesis through comparison and contrast of divergent constructions while also forming connections for mutuality, finding shared impetuses contingent with place between varying facets of the epistemic and physical framework. Therefore,

diverse historiographies, contextual and social patterns, cultural manifestations, socio-economic phenomenon, technological and physical constraints and needs, long-term sustainable and conservation issues, as well as connectivity to global, cosmopolitan concerns are filtered and then cross-pollinated to reveal new, collective re-readings of the localized environment where all factors simultaneously come to bear. In addition, the development of the categories inevitably heads toward the periphery of other fields, as trans-disciplinary to what would otherwise be more centralized studies.

Similar the Gadamer's model, the *ETH* case study is organized in three basic phases (described further in depth below in subsequent paragraphs). First, stakeholders gain basic knowledge about the case through research and data collection in the "*learning and identification*" phase and then construct a working categorical list of critical aspects and principal interests for each project organization. Rigorous documentation of the process is vital to the process. Second, in the "*realization phase*," interpretive understandings occur through dialogic cross-pollination (*co-tutoring, co-learning*) between interest parties, as a process of mutual learning and shared interest, to educate interested parties and develop connective modes between the complex relations of the 'whole' environmental context. Within is process of mutual learning, relevant issues and project targets are also co-developed within shifting collections of stakeholders or 'synthesis groups' (tutors) to in-turn co-educate and co-build a multifaceted field of relations. Here also, interpretative perspectives and findings are combined and collectively analyzed. Finally, "*synthesis*" is performed between various interpretive data, composed into drafted report and initiated into multilayered working

model for the design.[540] A collective vision can become finalized as it is mapped collectively to a tangible and applicable model. Interpretation becomes literal thought-in-action as it is re-interpreted, transcribed, and then modeled into real substances. The final report is submitted to the public at an official open event to promote active (dialogic hermeneutic) participant engagement and to be incorporated as a framework for subsequent application and grafting design solutions.

The Zurich North site (1996) at the time was Switzerland's largest urban development project, 640,000 meters squared, (about four square miles). The case was chosen for a number of reasons. First, they were looking for a complex relevant ground breaking case to advance theories on sustainable environmental development. Second, because of the presence of salient environmental issues inherent from former industrial sites (how to maintain old buildings, what to do about contaminated land, etc.), they were looking for adaptability of developable areas and remediation of contaminated sites. Third, land owners and city authorities who founded a planning corporation were interested in the case study because they wanted to gain a deeper insight into the complex problems of their site from an objective point of view. Therefore, the case agents and the case study team were intrinsically motivated by a common socio-communal goal of sustainable environmental development. [541]

The Zurich-Nord project presents a complicated relationship consisting of marshland and small wooded areas, brown-fields, industrial sites, refuge dumps, railway and storage, transportation lines, septic lines, flood plain regions, dilapidated buildings, housing, sports and education facilities, historic and archeological sites, and

conservation zones. Multi-cultural in aspects, the various villages engaged with the region have shared as well as disputed desires, each with their own agendas for their affective regions. New, large-scale developments of the airport and train services as well as commercial or industrial developments encroach upon local fabrics and promote an immediate global connection and dramatic change in scale. First, the inquiry gained a basic knowledge about the case (history, demographics, program, needs), then constructed a preliminary list of crucial aspects for its development. The principal interests were then identified for the project (developers, city, neighborhoods...including the case experts and researchers). Second, a questionnaire was sent out to experts and stakeholder groups where they were basically asked to judge the importance of the various aspects, issues for the development, and/or quality of the Zurich North site. To broaden the scope, the participants were also asked to add any aspects that had not been previously included. Third, the team decided on which facets the embedded design should be organized from the team's interests and values, responses from questionnaires, and resources available. This research further outlines below each of the key phases.

In the *Learning and Identification Phases* of architectural and urban design, as with many other disciplines involved in social interactions, it is virtually impossible to remove all individual biases that impact and influence interpretations of real situations and thus design solutions. The goal is to allow for multiple perspectives to enter the critical field of dialog in order to prevent singular dominance of views (reductivist) and in-turn foster richer ranges of solutions to multifaceted problems. The site is in effect the product of diverse communities and forces inhabiting it; therefore as a way to de-

centralize the project, the stakeholders acknowledge divergent categorical positions affecting the urban design. Through these categorical units of spatial constructions, the stakeholders promote a certain vested interest and focus in the site development, using the *critical environment* as a common, catalyzing theme to guide a unified goal of comprehensive redevelopment. The point of which is to maximize the stock of distinctly divergent epistemic constructions and points-of-view so that as many as possible stakeholders can affectively contribute, thus increasing complexity as well as specific focuses on particular contents. This promotes a *bricolage* or "magpie" type appropriation of divergent (and sometimes conflicting) ideas-at-hand to be integrated into a new collective assemblage It helps develop a thicker or broader view as well as developing the possibilities of connection with the complex greater domain.[542]

For management purposes, the coding categories for any such development can be generalized into typical categories, but open for subcategories depending on varying levels of engagement. The initial categorical stances for this kind of can be inclusive of: *historic contexts; mobility and transportation patterns; urban developments, townships or villages, building density, type, and use patterns; public & private space relationships; parks, open- and green space or parks; environmental impact, land and water management; socio-economics and cultural aspects*. Sub-categories can include significant connections and nodes, suitability, conservation, landscaping types, names of places, neighborhood or community needs, as well as others.[543] Environmental impact studies pertained to sustainability and landscape and included green spaces, natural links, pathways, parks, wooded areas, environmental hazards, swamp and water run-off,

climate, biological habitat, and electricity and waste management. The socio-economical and cultural viewpoint concentrates on studying the social, cultural, demographical and economical factors pertaining to the site and the surrounding areas of impact, and so forth.

During the *Realization Phase*, the established categories within the environment are further developed by the stakeholders toward common themes, shared threads, or impetuses between varying facets where the playing field can be integrated ("meeting of horizons").[544] By identifying the complex and unforeseen nature of the site, they also identify the need to bring together the disparate facets of the environment into a systemically connective model, one that allows for future synthesis beyond their initial analysis and design and away from preconceived notion, shape, geometry, or formal structure. Knowledge integration here again is intrinsically motivated by a common goal of sustainable and comprehensive environmental development as the connecting medium of exchange, seeing the urban environment as shared, ideal *life-place*. During this phase, participants identify others respondents that support or show consistency to their view. The validity of the design approach is grounded in the belief that a contextual reading of the site inevitably involves social agreement between various disparate facets affecting the site. Commonalities are identified between facets as immediate ways to solve conflicts within the scheme not otherwise as easily identifiable. While interpretation was loose in the previous phase, the realization phase leads to literal interpretation and application of the data.

Within the *Synthesis Phase*, mutual dialog inquiry fosters co-discovery of discursive, often divergent perspectives and constructions of reality, which the evaluating participants themselves present, compare or contrast, evaluate and/or integrate with other views presented. These build up into co-constructions, then re-constructions, as they are articulated and evaluated by all involved, while progressively documented into a single connective space leading to a finalized design. Preconceived notions are also under bi-mutual scrutiny and subject to critique by all participants. This dialogic process enables individual agents and/or communities to act as authority to elucidate underlying ideas, issues, and theoretical perspectives (even those that are not shared) and to understand the context within which work is made. Individual constructions are re-read through others perspectives – they set conditions that dialectically generate new ideas, images, processes, and are part of new constructions that have to be integrated into an ever changing context as new ideas are merged. Interpretively mapping a rich, self-deriving context, they inevitably let an epistemic framework for the understanding, articulation, and design of their environment emerge. In this, the design can retain thick descriptions and deep cultural connotations in its later denotative forms. Future iterations include participatory workshops to ensure the continuance of the process as the community develops in order to maintain and re-substantiate its goals to ever-changing conditions.

ETH Regional

Current *ETH-Basel* studies engage broader scale, regional approaches that foster extensive analysis for development based around a systemic interconnective network of

locales that form a total region. These *ETH* studies incorporate multiple methods, mappings, diagrams, technologies, and overlays along with categorical analysis toward understanding the multi-faceted and systemic plays of regional relations, dynamics, and forces in varying emphases to be considered. The studies build complex understandings and an increased aptitude for modeling potential synergetic relations between locales, stakeholders, amenities, relations, etc. and their effective capacities within a systemic framework for planning within their greater regional or even global community.[545]

Freiburg im Breisgau, Germany

As a another European case, similariliy as the ETH promotes, the city of Freiburg im Breisgau has developed a total regional plan to connect its many surrounding village and district areas into a single network that now forms its entire city region centered on its historic city center and its overall amenities as the driving forces. The overall goals are to produce a synergetic relation of city district, village areas, and outer forest regions where no network piece counteracts or overrides the other systems; they work together with all stakeholders 'buying-in' to the bigger picture. To them (as stated by the city planning and public relations department), this was a necessary to their total economic direction and their overall re-generative view toward sustainable development, integrated with its planning initiatives and its distinct cultural way of life. Simply put from discussions with their city planning officials, their greatest asset and driving force was the "sun" itself and how its inhabitants form their life, culture, and economy around its benefits. Boasting the most solar days and best weather within Germany, Freiburg follows this idea with its quality way of life and an emphasis on its healthy and

culturally significant Black Forest, its mountain surroundings, its wine and beer tradition, public places, and tourism. With its connection to its primary 'solar' and black forest region, it now boasts the reputation of being Germany's ecological capital and 'Solar-City.' [546]

In addition, Freiburg has also become famous for the revitalization of its historic city center, the '*altstadt*,' which had to have cooperation and financial support from its surrounding regions as vital to their own well-being. In this, they recovered their town squares and public ways, now revitalized as entirely pedestrian shopping areas, artfully designed public walks (nicknamed by some as 'urban carpets'[547]), fresh waterways, and open public spaces filled with active open-air eateries and wine/biergartens. What had become 'planned' in the 1960's and 70's within the modern model a set of roads and parking lots, devoid of human interaction and activity, now had places filled with life, culture, healthy quality-life, and economic prosperity. This move also had the overall master plan of connecting its inner city as an economic center, its famous cultural and amenities (like the *Augustiner* museum and Cathedral), and its quality of life and interaction with its surrounding districts, where every urban piece and part of the systemic network is non-competing and co-substantiating. [548]

Limiting the dependency on cars and fostering increased sociability, the districts are conveniently connected with quality, public rail transportation to each other and back to the city center where its cultural amenities have been framed as supportive and distinct and necessary to their well-being and way-of-knowing. The public transportation was kept on ground to promote interaction, visual movement, and

convenient connection to all its major districts and villages. As a result they live with cleaner air, better walking paths, more accessibility, and a much better quality of life for a greater percentage of its citizens than is typically presented. To make the city more social and as a result their economy, affected their levels of tourism, which increased and provided the revenue for overall revitalization of surrounding areas. In the long-run, they had put into action a way to become modern, economically stabilized, socio-environmentally aware, and also traditionally bound and culturally enriched.[549]

As exemplar cases, the recent developments in Freiburg proper include the new district planning of the *Freiburg-Vauban* area, which were once military barracks for French occupation after the war, as part of its overall regional solar plan, now becomes a redesign into a solar powered and sustainable city-community, mostly pedestrian, close to the famous Freiburg university. Developed out of a unique grassroots, stake-holder response to draw in various facets of its total community, its families collectively buy into their housing-blocks and a sustainable away-of-life with communal gardens and connected neighborhood settings. Coinciding and similar to this is *Freiburg-Rieselfeld,* which basically is a redevelopment of an area, once used as a natural septic-leaching field, into an almost completely pedestrian, and like Vauban, intended to function as a sustainable, socio-environmental community. Herein these present almost completely self-sufficient communities with all amenities needed for a community to sustain, such as places or worship, small businesses, eateries, and basic shopping within short walking distances to living, thus fostering proximity of functions to everyday life and connections back to cultural amenities. In both instances, emphasis is placed on

community involvement, participant engagement, stakeholder buy-in, mixed income, family, safe-children play areas, the elderly and the handicapped as part of a total human condition with equal rights to the same high quality of life.[550]

Mannheim - Rhein-Neckar, Germany

As a case study of city and regional development masterplan, Mannheim presents an extraordinary example based initially on a simple but effective overall vision of *"Science, Economy, and Life Quality,"* upon which physical features emerge as an interdependent synergy of locales and amenities forming an economic and cultural region. First, using Mannheim city center and the university (*Science*) as the intellectual hub and model for a total redesign of the regions dilapidated city areas. The city identified and prioritized once industrial, polluted, and impoverished urban areas for regeneration to cultural and education centers, complimenting its already rich array of museums and public shopping areas. The regional plan also called increased transportation and pedestrian usage within its city-center, its university, and shopping areas to boost economy and life-quality. In this, development also focused around convenient transportation connections within the city and greater Rhein-Neckar confluence region (like the American Heartland Delta Region in many ways) to connect between its distinct historic and cultural-centers (centered around its well-known train station), its shared economic assets, and to the nearest major international airport (proudly exactly 31 minutes to Frankfurt Flughafen) as selling features to attract global economies to seed the region.[551] Proximity to amenities and a sense of collective ownership was crucial to developmental buy-in. Using the City-Centre itself as an

economic generator, the surrounding regional communities gain economic connections and become seeded with potential.

Its goals are to incorporate its intellectual hub (the university and its quad-city central) as a way to build up an overall co-educative and co-substantiating (mutuality and teaming) understanding within the regional framework for both inhabitant stakeholders and possible outside interested parties (as eventual stakeholders) of the complex relations and possible quality of life of a 'whole' area. Like the *ETH* model, this approach indicates a similar integrated stakeholder and connected interest development where all participants are brought to the field and every participant must buy into the total scheme. Working the roles of the individual city or regional parts collectively to be inclusive, holistic, and co-substantiating, a series of smaller places can compete with larger metropolitan areas for economic growth and prosperity. Once it's developed every asset within a region would be multiplied by the assets within other regions. Through a synergistic process implemented publicly into developmental policy as an agreed upon operational framework for subsequent applications and design solutions, the process also coincided with the Mannheim's 400th year Jubilee and celebrated alongside its visionary plan a rich history of cultural awareness, thus bringing to the surface the importance of building upon the significant foundations of its cultural memories, identities, and meanings. Here, primary emphasis is on regenerative and co-productive, *economic* promotion as a way to revitalize cultural assets, but also how cultural assets can be incorporated as distinct economic generators and thus together enhancing the overall *life-quality* for a region.[552]

Case Study References Conclusions

These processes presented in these cases build a preliminary set of tools that support the *Critical Environmentalist* approach by incorporating multiple forms of knowledge integration, co-learning, and inevitability design interventions based on hermeneutic approaches and community organized understandings within and about the multifaceted complexities of these types of socio-environmental situations. Since epistemic systems exist mentally and spatially as meaningful constructions of social interactions, an interactive approach attempts to view the context from many different points of view in order to correspondingly promote a multitude of affections in lieu of presupposed forms or universalistic approaches. Reciprocally, the positive transformation of the structural framework for the communicative exchange of knowledge in turn transforms the corresponding social structure and thus critical human consciousness where knowledge constructions occur. There is an increasing need to foster ways in which architectural thought and thus practice (thought-in-action) can more effectively and holistically deal with complex environmental and human-dwelling concerns. The process promotes a synthesis of communicative approaches that can strengthen the central role of architects in the systemically participatory and interdisciplinary, social environment. Integration of common knowledge bases and distinct interdisciplinary methodologies can address the discursive concerns and their correlation with application in the community, thus developing a positive and meaningful effect with its context. The next sections of this case research present applicative variations of these approaches in three pedagogical architectural studies.

London 2012 - Lower Lea Valley *

Overview

Although cosmopolitanism implies global and universal notions, encompassing diverse, multiple readings of the urban fabric, it is essential to cultivate the specificities of place, especially during significant changes. Paradoxically, following Paul Ricoeur, how does participation in modern, universal civilization also involve surfacing rich, inherent sources for our interpretive thinking?   This research documents a unique approach to urban design education where divergent perspectives amalgamate into emergent urban configurations for London's Lower Lea Valley. The process emphasizes critical re-construction of the context of place while converging the multiplicities of a comprehensive regeneration. Understanding complex urban situations involves dialogically modeling a discursive, categorical structure through a rationale that seeks synthesis through comparison and contrast of divergent constructions while forming mutual connections between varying facets. Diverse and distinct historiographies, contextual and social patterns, religious and cultural manifestations, geographical and socio-economic phenomenon, technological and physical constraints, sustainable and conservational issues, as well as connectivity to global, cosmopolitan concerns are cross-pollinated to reveal new, syncretistic re-readings of urban space. The process hermeneutically reveals a richly textured fabric and creates significant narratives

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and themes upon which to graft corresponding solutions. It advocates productive

interchange and rapprochement between divergent perspectives during the constructive

processes of our life-world.[553]

Introduction - Towards Increased Participatory Interaction in Urban Design and Community Development Scenarios

We are in a tunnel, at the twilight of dogmatism and the dawn of real dialogues.
        - Paul Ricoeur, *Universal Civilization and National Cultures*[554]

Urban design is affected by a fluxing array of forces and conventions. As society

becomes evermore complex, urban designs emerge from pluralistic, interactive, and

systemic processes that foster a productive and effective interchange of ideas from broad

ranges to consequently respond with significant courses of action in the greater,

immanent domain. At the same time, they are also are mandated to critically correspond

and preserve the inter-subjectivity and localities of the individual in place. The idea of

cosmopolitan and urbanity takes on global or universal notions, but it is important to also

cultivate specificities of place. Architectural approaches to the urban fabric diversify to

handle new situations, each of which mandate a dynamic, paradigmatic review of current

knowledge bases and the processes effecting design reasoning. Since knowledge is

accessed and interpretably incorporated in varying fashion, there is a tendency for

fragmentation within the system that leads to disjunction and marginal relations with the

greater domain. The issues are in part accelerated by recent changes and exponential

increases in the complexity of such systemic forces mixed with escalating and un-

tethered informational and technological advances, which has compounded in varying

degrees of separation between the significant totalities of the life-space we reciprocally

embody. Within this rift, it is important to maintain the intrinsic need for communication and thus mediation between disparate facets as the basic impetus for design.

This research documents a unique, experimental approach for urban design and architectural education implemented as a case study and design scenario where normally divergent or conflicting points of view become linking factors which build emergent urban configurations. Our proposal emphasizes a critical construction of community and place, while attempting to converge multiple urban conditions in a comprehensive regeneration and redevelopment scheme for East London's Lower Lea Valley without compromise to the local, urban fabric. This approach attempts to integrate in a systemically communicative manner the disparate components of ever more complex societal challenges with equally complex and dynamically integrative solutions. In an educative environment, as a foundation for future practice, it is important to foster significant connections with the complexities of very-real situations and to manage its multifaceted components in a meaningful way.

The studio-design scenario incorporated a process identified as a "hermeneutic dialectic" (also referred to as "collaborative" or "interactive inquiry").[555] To Erlandson, *et al*, the process is 'hermeneutic' because it is (co)interpretive in nature and 'dialectic' because it "seeks a synthesis through comparison and contrast of divergent views," but also forms connections "between them that allows for mutual exploration by all parties."[556] To these proponents of qualitative and naturalistic inquiry, it promotes a divergent inquiry, "that is also in tune with the emerging thought of the time and

significance for the world outside itself," and allows for 'other' fields of inquiry to be drawn into the periphery of research. [557] Dialog reveals varying points of view within a community, in this case the community of knowledge currently informing the urban fabric.

The method takes a constructivist view toward hermeneutic inquiry that allows knowledge bases to dialectically emerge from the cross-pollination of knowledge. The focus and content of the research methods is allowed to change or emerge in the process of discovery, rather than a set of predetermined outcomes, a flaw of many reductivist design solutions. The method intrinsically promotes a dialogic between multitudes of knowledge-bases in order to interpretively generate a way of seeing the total picture. Dialogical methods are "built on the idea that education is a continuum of dialogs between participants rather than monological" (singular, reductivist approach) that "takes part in the collective enterprise of learning"[558] Transactions between participants are conducted on the basis of exchange of experience, knowledge, and ideas between informed individuals on a particular facet of the design. The meeting process in the event-space of dialog sets stages for relationships to be reflected and then put into action (movement) through communicative processes to evaluate and assign values to unique circumstances in their milieu. Habermas proceeds to connect interactive communication, in which the norms of a community and the social roles of actors become important constraints of perceived socio-moral appropriateness of actions. Expressive communication focuses upon the fact that individual actors respectively constitute a public for each other, negotiating the truthfulness of communicative actions. Habermas

states that a "*decentered understanding of the world* presupposes that relations to the world, claims to validity, and basic attitudes [including moral] have become differentiated". De-centering draws attention to the structures of interaction themselves within the life-world as the context for embodied interaction and thus communal understanding *about* particulars of the objective world.[559]

Hermeneutics is by its nature initially subjective and transactional.[560] To Gadamer (*Truth and Method*), there is no true universal other than the hermeneutic process of all "inter-human experience," in action, bound in the textual. He presents that critical understanding emerges through communicative interaction seeking a "fusion of horizons" between participants, through which an 'authority' and applicability emerge.[561] Hermeneutics appropriates knowledge through iterative, interpretive processes that proceed to fine-tune the system, where the inquirer(s) can construct the world and in-turn allows for new unfoldings. Gadamer's view of the hermeneutic processes entails circular reiteration of the three basic components: *interpretation*, *understanding*, and inevitable *application*. In this way, a practical hermeneutic is a viable proposal to serve social purposes as in urban design processes, in this case, the educative design processes of a community in productive action and its relation to an overall, expanding view toward knowledge integration into greater systems of thought. Understanding is interpretive and grounded in action (*in situ*) with the addedness of our rationale to organize action.[562] This rationality is further modified through phenomenological approaches, rooted in interpretation. Also to Merleau-Ponty, "To say that there exists rationality is to say that perspectives blend, perceptions confirm each

other, a meaning emerges. But it should not be set in a realm apart, transposed into absolute Spirit, or into a world in the realist sense."[563] This realization embraces the synthesis of the subject as part of an overall system. Knowledge is derived from the world, thus our constructions are immanently connected.

Reference *ETH* Case Instance

Creative production initiates with corresponding models that foster a productive and effective interchange of ideas from broad ranges. The design education process is viewed as an embedded case study of a certain community's views on a particular subject at a particular point in time.[564] The urban design process incorporates a model case study method developed by the *ETH-UNS Zentrum Zürich Nord* whose "main objective has been to obtain an encompassing understanding of the genesis, dynamics, and impacts of the complex relationships between natural systems and social or technical systems," shaped by overall environmental issues for informed urban development.[565] The case study allowed students to gain a deeper insight into the complex problems of their site from objective and divergent points of view. Similar the Gadamer's model, the case study is organized in three basic phases. First, students gain basic knowledge about the case through research and data collection in the "*learning and identification*" phase and then construct a working categorical list of critical aspects and principal interests for project organization. Rigorous documentation of the process is vital to the process. Second, in the "*realization phase*," interpretive understandings occur through dialogic cross-pollination (co-tutoring) between interest parties, as a process of mutual learning and shared interest, to develop connective modes between the complex relations of the

'whole' environmental context. Interpretative perspectives and findings are combined and collectively analyzed. Finally, "*synthesis*" is performed between various interpretive data, composed into a multilayered working model for the design.[566] A collective vision becomes finalized as it is digitalized and mapped to a tangible ad applicable scale. Interpretation becomes literal thought-in-action as it is re-interpreted and transcribed into real substances.

Target Case in London's Lea Valley

East London's Lower Lea Valley presents a complicated relationship consisting of marshland and small wooded areas, brown-fields, industrial sites, refuge dumps, railway and storage, transportation lines, septic lines, flood plain regions, dilapidated buildings, housing, sports and education facilities, historic and archeological sites, and conservation zones. Multi-cultural in aspects, the various boroughs engaged with the site have shared as well as disputed desires, each with their own agendas for their affective regions. The surrounding areas are typical English suburbs with low-income housing supported by local business and industry, which have to be maintained and connected at the perimeter of development. New, large-scale developments of the Strafford international train station and commercial developments encroach upon the local fabric and promote an immediate global connection and dramatic change in scale. In addition, the area is also being considered as the future site of 2012 Olympic facilities, which historically has paid little attention to the localities of place and its long-term effect for communities, but nonetheless is an essential component of the design problem.

The ciphers of critically understanding complex urban situations start with dialogically analyzing, mapping, and modeling a discursive and categorical component structure through an underlying rationale that seeks dialectic synthesis through comparison and contrast of divergent constructions while also forming connections for mutuality, finding shared impetuses contingent with place between varying facets of the epistemic and physical framework. Therefore, diverse historiographies, contextual and social patterns, cultural manifestations, socio-economic phenomenon, technological and physical constraints and needs, long-term sustainable and conservation issues, as well as connectivity to global, cosmopolitan concerns are filtered and then cross-pollinated to reveal new, collective re-readings of the localized urban space where all factors simultaneously come to bear. In addition, the development of the categories inevitably heads toward the periphery of other fields, as trans-disciplinary to what would otherwise be more centralized studies.

Learning and Identification Phase[567]

For management purposes, the coding categories were generalized into typical categories, but open for subcategories depending on varying levels of engagement. The initial categorical stances included: *historic contexts; mobility and transportation patterns; building density, type, and use patterns; public & private space relationships; parks, open- and green space; environmental impact and waterways; socio-economics and cultural aspects*. Sub-categories included significant connections and nodes, suitability, conservation, landscaping types, names of places, boroughs and neighborhoods needs, as well as others.[568] In addition, students were also encouraged to

address these issues with sub-categories in terms of 'Place' studies. In *Maintaining the Spirit of Place*, Harry Garnham recognizes three basic information systems that help to *"understand, record, and communicate the basic sense of the region."* These include: *Natural* (landforms, vegetation, water); *Cultural* (open space, land development, utility systems, public infrastructure, landmarks, circulation); *Visual* (viewpoints, unique areas, places of interaction, sequence of views, outdoor activities, visual clues).[569] Since the cultural context is found to be diverse, extending beyond English descendents to distinct areas of Bengal, Indian, Pakistani, and others, the cultural and visual aspects become increasingly significant and viable to design interpretation. How the local inhabitants view their life-space is incorporated as an interpretive design generator.

Within the historical context, the research included urban plans of John Evelyn, Christopher Wren, and the later extreme Sir Ebenezer Howard. Studies also discussed and documented London's Olympics dating back to 1908 and 1948 as a way of placing the Olympic notion to components already in place within the overall city context. Further research also included researching names of places, historical areas of significance as well as archeological considerations. Transportation patterns research consisted of studying types and modes of transportation including railways, main access roads, secondary roads, pedestrian walkways and walking distances, bicycle paths and water transportation and then mapping them across the site. Research also found historic pathways and nodal connections. Documentation of built structures and patterns identified an array of residential, educational, religious, governmental, industrial as well as medical on site and at the perimeters. Figure-ground studies were completed as well

as the study of building typologies. The relationship between public and private spaces included private and public courtyards, green spaces, public spaces that emanate a specific degree of privacy, typified London spaces, plazas, gathering areas, events-spaces, retail, mixed use buildings, multiuse spaces, combination rental and owned housing, combination business retail and housing, and visual and physical spatial transitions. Environmental impact studies pertained to sustainability and landscape and included green spaces, natural links, pathways, parks, wooded areas, environmental hazards, swamp and water run-off, climate, biological habitat, and electricity and waste management. The socio-economical and cultural viewpoint concentrated on studying the social, cultural, demographical and economical factors pertaining to the site and the surrounding areas of impact.

In the early stages, the data is gathered and compiled using both digital and analog means in ranging from literature review, census and environmental reports, web-logs and conversations, downloaded site information from associated agencies, political websites, local concerned citizen groups, city webpages, site photos and maps, etc. During site reconnaissance, students photographed and measured to empirically document aspects of the site. They were also asked to qualitatively evaluate aspects of the site and to talk with firms and local residents in regard to their positions. The observers discuss and diagram key aspects to their categorical stance, becoming experts in certain aspects in relation to the site that can then be conveyed to others. The computer now plays an extraordinary role in the ease of management and transfer of the

multitude and variety of data resources. Multiple materials can be brought in, digitized, and mixed with other sources and interpreted collectively.

The work is complied into both analog and digital montages to promote multiple and even abstract readings within each category. Some of the initial dialog involves interpretive mental/memory mapping, diagramming, eidetic drawings and analysis to evaluate the discursive nature within the categories themselves. The students begin through typical sketching, collaging, mapping, modeling, and interpreting in terms of their specific interest, but through their readings also begin to find external connections to adjacent categories and other world issues. The interpretations are deliberately kept loose to promote generalized approaches and idealized viewpoints. The students draw into the scene qualitative imagery, poetic notions, site sketches, and photos, while identifying relations to associated site conditions.

The groups rigorously studied their respected viewpoints and were then asked to interpretively design specific site schemes by method of large-scale sketches and diagrams based solely upon to their primary categorical viewpoint. They then draw in these sub-categorical positions into a collective, singular format. Multiple technologies (digital and analog) are incorporated in conjunction to map and overlay divergent positions. Then, through mediated design interventions, stakeholders co-transform each position in relation to facilitate mutuality and increased depth of solutions. Ideological solutions, while rough in nature, are then digitized together and brought into a collective, scaled (measurable in the same way to physical space) CAD file to be re-filtered and mapped through other points of view in the subsequent realization phase.

Realization Phase

Upon developing categories within the environment, the students work at developing common or shared threads between varying facets where the playing field can be integrated ("meeting of horizons").[570] They identify a common goal and motivating title for the project, "*Continuous Fusion, Blurring the Lines between Divergent Perspectives*." By identifying the complex and unforeseen nature of the site, they also recognize the need to bring together the disparate facets of the environment into a systemically connective model, one that allows for future synthesis beyond their initial analysis and design and away from preconceived shape, geometry, or formal structure. Knowledge integration was intrinsically motivated by a common goal of sustainable development in the connecting medium of exchange, the urban environment as shared, ideal life-space. During this phase, participants identify others respondents that support or show consistency to their view. The validity of the design approach is grounded in the belief that a contextual reading of the site inevitably involves social agreement between various disparate facets affecting the site.

The categorical responses and subsequent master plans sketches were overlaid and merged into a collective field of spatial connectivity using two separate but connected 'round-table' approaches: a scaled physical site model with an overlay and a CAD modeled 3d site plan. Both analog and digital composite overlays were created to simulate, forecast and interpret direct patterns and connections between various site locations and divergent viewpoints. From this, the students visualize and discover emerging patterns as well as diversions and consistencies between conditions.

During the realization phase, a physical model was constructed of the site with a transparent graphic overlay mounted directly over the model as a shared plane of synthesis. This plane not only fostered the collection of multiple layers into direct contact with the city fabric, but emulated a process developed by London's *Space Syntax* to create computer-generated spatial models and to subsequently analyze physical attributes.[571] This allowed comparison and contrast to the existing site model emulating the real, physical context. Lines were drawn unto the overlay that allowed for malleability and change, where lines could be easily identified and articulated in order to merge or avoid conflict. For example, a new roadway emerged that had to be accommodated and merged with other features and was easily conformed along the lines of other components. By mixing the approaches, the design process is open to on-the-fly refining as new information is brought to the table.

The computer is used as a mediating device to even the playing field between divergent points of view and in turn promotes an increased 'meeting of horizons.' The use of the computer aids in a gradual but rigorous understanding of the system, but also becomes the primary mode of intercommunicative exchange. In addition, once brought into the multilayered field of the computer space, new collective readings are derived and as such promote a closer view of the complex realities of the site. Each participant now has a collective model, which allows all learners to see it as a single, scaled site and literal relation to real entities, and thus fosters the ability to neutralize primacy of one system over another. Commonalities are identified between facets as immediate ways to solve conflicts within the scheme not otherwise as easily identifiable.

While interpretation was loose in the previous phase, the realization phase leads to literal interpretation and application of the data. For instance, the historic analysis, if taken literally, could simply be transcribed directly onto the site. However this interpretation changes during the realization phase, with aspects of the linear connections and spatial public nodes playing an effective role when mixed with new transportation and public space analysis. In addition, an analysis of green space from London's *Architectural Association* promoted a similar nodal and "fuzzy network" of "emergent public space," which was overlaid into the overall spatial scenario with multiple connections.[572]

Synthesis Phase

Through mutual inquiry, discursive perspectives of realities are initially discovered as divergent constructions of reality, which the evaluating participants themselves present, compare or contrast, evaluate and/or integrate with other views presented in the dialog. These build up into co-constructions, then re-constructions, as they are articulated and evaluated by all involved, while "progressively documented" into a single connective space leading to a finalized design. Preconceived notions are also under bi-mutual scrutiny and subject to critique by all participants. This dialogic process enables individuals to act as experts to elucidate underlying ideas, issues, and theoretical perspectives (even those that are not shared) and to understand the context within which work is made. Individual constructions are re-read through others perspectives – they set conditions that dialectically generate new ideas, images, processes, and are part of new constructions that have to be integrated into an ever

changing context as new ideas are merged.[573] Interpretively mapping a rich, self-

deriving context, they inevitably let a framework for their final design emerge (Figure

5.1).
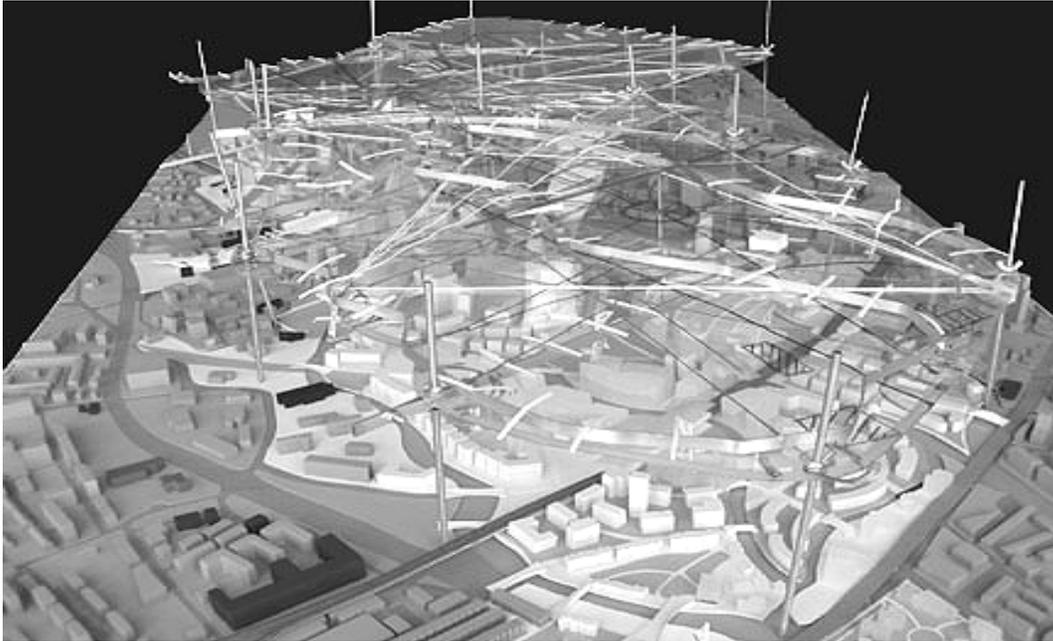
Figure 5.1: Site Model With Collective Field Overlay of Spatial Connectivity.

Beyond analog means, the computer fosters the ability to generate the

comprehensive storage of the material and leads toward rigorous and disciplined

documentation. The layering system in both photo rendering and CAD programs allows

for layers to be named and separated for comparative or singular analysis and clear

coding will aid in the understanding of the various, multifaceted components, as seen in

emerging information management software. In essence, combining both analog and

digital technologies cultivates effective cross-pollination of ideas and modes through

communicative and participatory interaction. Since the digital technology creates a

collective space as a medium of exchange and a mock full-scaled version of the site, the

preliminary interpretive sketches can become 'scaled' and possess the possibility of actuality. For instance, a line sketch delineating an abstract connection can now be traced onto the CAD drawing 'as-is' and then altered to meet specific site restraints, while maintaining the initial gestured idea (Figure 5.2). This approach has the potential to collectively overlay or montage complex patterns and thoughts seamlessly and to then merge a multitude of corresponding design configurations simultaneously. In this, the design can retain thick descriptions and deep cultural connotations in denotative forms.
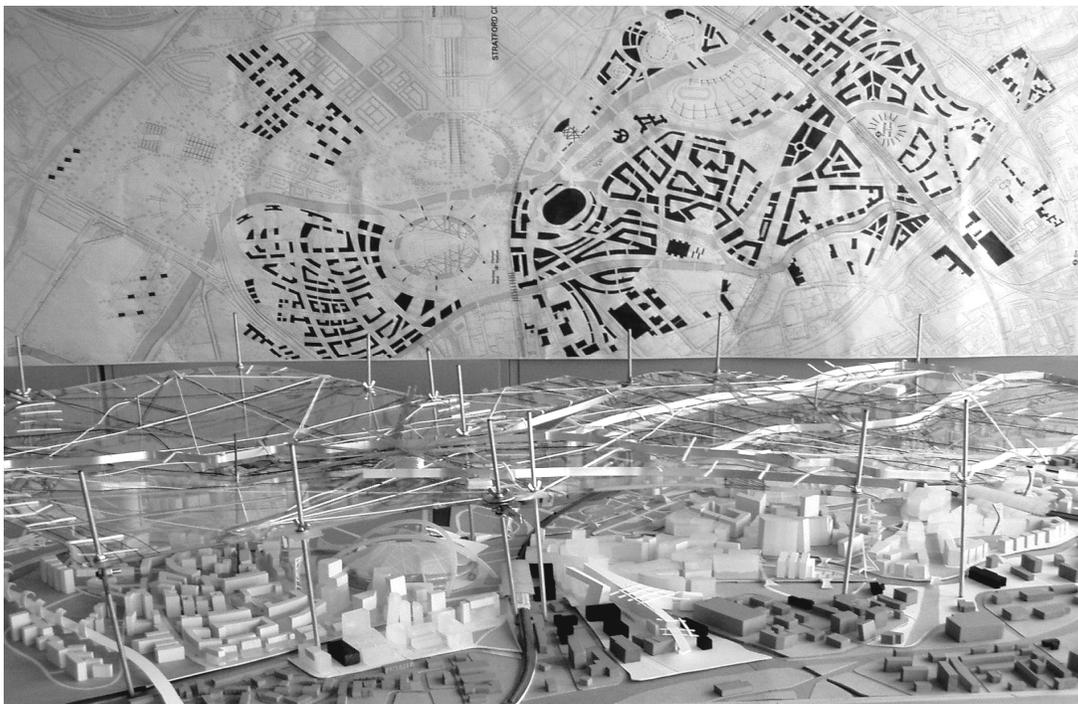
Figure 5.2: Final Project Including Site Model, Spatial Overlay, and CAD Site Plan.

Fieldwork, analysis, web publications, preliminary hand sketches, interviews and presentations, photography and imagery, material and product research, consultant work, GIS data sets as well as working CAD and digital 3D models can be merged and synthesized into a single database and finalized scheme, readily accessible and presentable to all participants, including those outside the immediate design setting.

Collected work was then easily converted to transfer exchange formats for direct correspondence with others, as in this case international groups of architects in London that can now perform spatial analyses and assess the actual applicability, thus increasing potential understanding of real-world scenarios.

London Lea Valley Case Conclusions

The goal of this inquiry and design process was to build a preliminary set of tools for learning about the complexities of urban situations based on hermeneutic approaches. Epistemic systems exist mentally and spatially as meaningful constructions of social interactions. Therefore, an interactive approach attempts to view the context from many different points of view in order to correspondingly promote a multitude of affections in lieu of presupposed forms or universalistic approaches. Reciprocally, the positive transformation of the structural framework for the communicative exchange of knowledge in turn transforms the corresponding social structure and thus critical human consciousness where knowledge constructions occur.

There is an increasing need to foster ways in which architectural thought and thus practice (thought-in-action) can more effectively and holistically deal with complex environmental and urban concerns. The process promotes a synthesis of communicative approaches that strengthen the central role of architects in the systemically participatory and interdisciplinary, social environment. Integration of common knowledge bases and distinct interdisciplinary methodologies can address the discursive concerns and their correlation with application in the community, thus developing a positive and meaningful effect within its context.

Connecting Communities - New Orleans *

Overview

This research documents a distinct, multi-methodological exploration to urban design education where complex urban patterns amalgamate dialogically to inform new regeneration plans specifically within the Marigny-Bywater districts of New Orleans. Based on the understanding that distinct spatial configurations are the critical constituents for physically determining how urban systems perform, this work follows the notion that the integration of varying constituents within the urban fabric is a value determined by its particular serial connections and movements between key places. Areas with a higher integration value tend to be less impoverished, have lower crime rates, better quality and more productive growth. Currently, this particular region of the city indicates a spatial configuration that is not conducive to the overall rebuilding efforts, and instead presents pockets of congestion, unusable zones, and increased socio-economic marginality. In broader terms, New Orleans has the same problems as many other cities in the US – poorly planned rapid growth has caused unresolved density, use, security, and transportation problems in its wake. However, current issues have raised the stakes and exposed additional concerns. For successful and holistic revitalization of the urban fabric, the physical spatial configuration itself must be resolved and integrated

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to enable the essential issues of increased density, movement, socio-economic integrity, cultural identity, environmental sustainability, and thus lead to communal well-being.

Incorporating urban design concepts and configuration modeling developed by *Space Syntax* (Hillier, et al), we are able to focus on specific spatial configuration problems occurring in a real-time, simulated environment to build a formal, objective basis for viable solutions. While we combine this with other technologies to assemble an horizontal, data-based plane, we also engage methods associated with critical theory as the filtering catalysts between divergent stakeholder positions to develop the vertical, dialogic plane of participatory co-understandings and shared impetuses between differing design intentions within the same community, while also attempting to retain specific place-oriented identities and meanings. This interplay dialectically forms 'thicker' and collectively more descriptive readings of critical design parameters, informed empirically, spatially, quantitatively as well as qualitatively. As a model for urban and community design, the pedagogical scenario builds upon a common, spatially and dialogically oriented playing field where multiple stakeholders can collaborate and participate directly within a real-time simulation of their environment. By placing subjective intentions within an objectified framework, the process thus promotes more focused communicative social practices along with mutual and performance-based reasons for the design.

Critical Spatial-Integrations

The perception of reality does not obtain the full value of knowledge, except when once socialized, once made the common property of men, and thereby also tested and verified.
        - Edouard le Roy, 1912 on Henri Bergson [574]

Only in the flow of life do words have their meaning.
      - Ludwig Wittgenstein [575]

Environmental space is the interactive, epistemological space of social practice. To Henri Lefebvre, "acquired knowledge as structurally connected to the spatial sphere is self-evident, but scientifically never conceptualized along with the collective, social subject," the creators of a particular language within a certain community of participants, especially those involved in a productive social activity. Here he identifies a "yawning gap that separates this linguistic mental space from that of social space," wherein language becomes practice and meaning is gained through communal use. To Lefebvre, knowledge is also the space in which the subject may take up a position and speak of the objects with which he deals in his discourse[576]. Knowledge is gained spatially through interactive translation and interchange. Space, and thus knowledge of it, intrinsically involves multiple 'others.' The interchange between the subject and object brings to the textual surface an inherent spatial dimension for the condition of knowledge. We exchange a notion of an abstract, source space for the acquisition of knowledge to a hermeneutic 'life-space' filled with social and communal interaction (textual-interpretation driven).

To Gadamer, there is no true universal other than the hermeneutic process of all "inter-human experience", in action, bound in the textual. Gadamer presents that critical understanding emerges through communicative interaction seeking a "fusion of horizons" between participants.[577] Knowledge only gains 'authority,' akin to the factual, through inhabiting community practice. Hermeneutics, being productively transactional, appropriates knowledge through a continuum of iterative, interpretive dialogic processes

that proceed through rational thinking (via agency in-place) to adjust or fine-tune the system, where the inquirer(s) can construct the world (apply knowledge)[578]. This dialogic adds a dynamic spatial as well as social dimension, thus vitally linking knowledge construction and its interchange with place. The representative images of the world simultaneously and immanently contain the human component and its interpretation. The interpretive interchange and interaction of subjects ethically forms and constructs the world, the life-space and its knowledge. As actions, practice, and knowledge are intertwined, the conditions of knowledge are subject to dynamic and changing context. Critical theory, rooted in this mode of thinking, involves systematically organizing complex, multi-dimensional factors. In the case of this research, it plays a substantiating role for architecture in the total environment to produce corresponding solutions by supplying continued vitality to our decision making processes and being reciprocally and critically accountable within the world we engage.

The goal of the urban studio is to integrate and create a significant unity between the theoretical fields of thought, divergent stakeholder positions and the practices and habits of the participants influencing and informing the urban fabric. Like the process of thinking architecturally, an articulation and re-construction of the world embodies the essential qualities of its immanent context, what resides through it. Since knowledge is constructed communally and socially, the processes are inevitably hermeneutic seeking interpretive syntheses in the course of dialogic interchange with others, while also retaining distinct identities of interpreting agencies (*epistemic funds*) in *place*. Also, the goal is to allow knowledge to be revealed through the interpretive processes and to

position it in a rational, objective framework. To educator John Danvers, this kind of

reciprocal ideology would also promote an ontological "model of inter-connectedness"

and synergy between knowing, doing and being. To him, to disengage the "ontological

dimension from the epistemological and performance dimensions leads to an

impoverishment of the learning (and teaching) experience."[579] Comprehensive

knowledge is only made possible through the inclusion of multiple experiential

standpoints.

Re-(Dis)covered Palimpsests

*I believe the truth about any subject only comes when all sides of the story
are put together, and all their different meanings make a new one. Each writer
writes the missing parts of the other writer's story. And the whole truth is what I am
after.*
        – AliceWalker, *In Search of Our Mothers' Garden* [580]

Figure 5.3: Multi-layered Interpretive Mappings of Varying Facets.

Through analysis we learn that the overall success of urban fabrics depend on the

specific spatial assembly and integration of the varying components within the whole.[581]

For New Orleans, Louisiana (NOLA), we can begin to discover how parts of a city

perform by traditional methods, looking at the typical component structure of streets,

urban densities, building uses, general site conditions, its *legible* characteristics,[582] etc.,

but we can also filter-in an interpretive analysis to get a correlative context to form. Since spatial integration occurs at multiple scales and through many lenses, participants take on stakeholder roles representing various discursive categories. From historic analysis to qualitative approaches to quantitative analysis, divergent positions are all mapped and modeled together in relation to their respective places of occurrence to build a 'thickened' picture[583] of the urban fabric (Figure 5.3). Qualitative approaches substantiate quantitative resolutions developed within the modeling, but also provide the vertical dimension required to produce identity- and meaning-in-place. We also discover how distinct places of interest and interactions play their roles within system modeling and analysis. In this way, contextual analysis, conceptual articulation, and content simulation are realized through connectivity modeling in the horizontal, data-based form, which allows vertical, meaning based identities to also take shape through working, spatial interactions. This reiterates and emulates the complex, poly-modal nature of the urban fabric, but also the creolized nature of NOLA's distinct and varied cultures and physical manifestations. While many ideologies today promote a removal of the dichotomy between the physical and the social, we are mandated to also ask how do we re-construct what is initially a physically holistic problem while also attempting to retain multiple local, primarily Creole, identities and authenticities.[584] This process has the added possibility of mutually and reciprocally deepening the understanding for all involved on issues at hand - one in which all collaborating participants share a common concern that becomes increased (snow-balled) as dialog, and co-evaluation proceeds.[585]
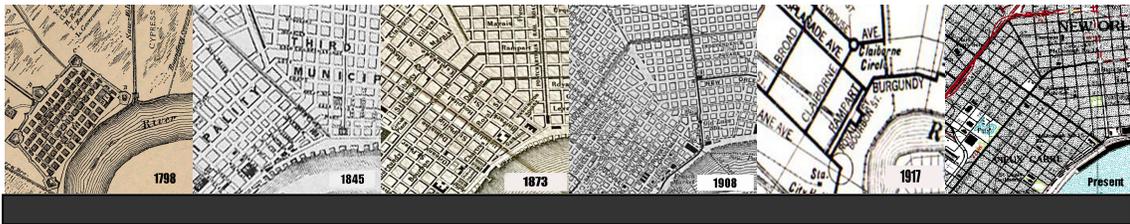
Figure 5.4: Progressive Comparisons of Historic Areas of New Orleans.

Observing historic maps at various stages of growth reveals a configuration of connective and converging patterns developed over a rich history of growth, trade, politics, and movement. From the French Quarter, the city grew outwards linearly in sections along the Mississippi, albeit not necessarily in a natural succession. The city later grew in stages along designated zones corresponding to levee and drainage systems (usable canals) and along plantation lines along the riverfront. Our particular site of interest, discussed below, resides on a bend in the river and is indicative of varied and distinct growing periods (Figure 5.4, progressions from city foundings to current status). The bend in the river created grids that worked in two directions and the connection between them was not adequately resolved for integrated spatial connections and movement. During more modern times, the marshlands were drained and impervious development filled in where once retained a saturated geology, those of which coincidentally now correspond to the most devastated areas of hurricane Katrina. Later development also eventually removed the internal layers of protecting levee and canal systems, increased transportation ways, and built new city patterns, overriding the original historic and naturally forming fabric. The solution for the roads was simply the city's quick adjustment to needs of a growing city by following the river while also trying to maintain strictly imposed grid systems. With this also came a loss of identity in

certain areas and the failure of positive urban intricacy,[586] which in the end overrides the natural, organic growth of communities and their self-sustaining socio-ecological processes. Rich palimpsests of historic urban fabrics and cultural growth with their prominent transportation ways, *allees*, functional canals, and levee systems connecting the cultural areas of town gave way to the new modern universal growth of rigid zoning, raised highways, a centered downtown (like anywhere, USA), developer housing, and commercial corridors, all of these contributed to increased drainage problems and social separation. The new dominating fabric promoted movement patterns not conducive to an intimate and integral whole, especially one with multiple, distinct socio-cultural and -economic centers along linear growth patterns. Instead these movement patterns force re-centering that cuts off many areas of town and increases unmanageable flow into areas now plagued with blight and overcrowded, unplanned zones. The issues are escalated as the city grew in non-sequential growth stages within and between plantation farm boundaries. Along these past territorial perimeters the city was often left with unresolved geometry patterns and leftover parcels of unusable, marginal, and un-maintained areas, later to become problematic, contested, and highly controversial.

Spatial Configuration Studies and Integrative Value

By tracing the configuration back through its history, while mixing ideas learned from newer reasoning and development, the study can fine-tune based on multiple views and hopefully provide a working model, albeit firmly rooted to its rich cultural presence and place-making modes particular to the area. However, we cannot begin to understand the real complexity these areas have without some way of analyzing the information at

once in relation alongside objective reasoning for making decisions. Configuration modeling, as well as subsequent design and testing, can also be enriched from multi-methodological analysis, allowing mixing of approaches that build thicker descriptions within objective means.

Hillier describes "space syntax" as the way in which space is organized, or the ordered "system".[587] The reason for this approach to urban design is to first understand how urban spaces have evolved and why space works (or not) from the very large-scale all the way down to distinct, local fabric. If we can identify what makes dynamic social spaces, we can understand *how* to design them. On a broad-scale, all urban space is organized in direct relation to movement, primarily linear. Cities are embodied and experienced by way of lines of travel and sight, therefore designs should employ linear functions over the typical layout of urban blocks or zones. Space is a shape and function of what we do in it, how we use and inhibit it. If we think about it in human, corporeal terms we begin to understand how relationships are formed spatially. For instance, if a group of 4 people organize themselves so everyone in the interaction were equally visible to everyone else, a somewhat circular shape would form. If a fifth person joins the assembly, the shape changes slightly to fit a new point in the shape, and so on.[588] Using relationships like these, Hillier and the Bartlett School/UCL staff were able to develop software to analyze space using these relationships and patterns.

The "Integration Value" is a line's mean linear "depth" from all other lines in the system.[589] Given a set of parameters we can calculate local and global depths for any line in the system. We can take any line and give it three turns. The more connections it

makes with the three turns the more integrated the line is. We can also give it an infinite radius which will calculate the total number of turns to get to every other line in the system for it's global integration. Roughly, the less depth to all other lines, the more movement; and the more depth the less movement. If a line takes 30 turns to connect with all the other lines in the system it will have less movement than a line that only takes 3 turns. In addition, every trip in an urban system is defined with three basic elements: an *origin*, a *destination*, and transitional *serial movement spaces* that are passed through on the way from one to the other.[590] So the spaces along well-integrated lines have the most potential. It is important here to recognize that trips have to be defined as local or global, within the city, because a long trip tends to travel along lines that are globally integrated, while local trips travel along lines that are more locally integrated. This creates a "multiplier effect" along these lines. Meaning that areas that have more urban potential tend to be much higher densities. It is said that cites are "mechanisms for generating contact." So most urban space use is movement. Creating a "good space is used [occupied] space" theory. If we look at problem areas in the city we realize that it is not density that "undermines a sense of well-being and safety in urban spaces, but sparseness." If movement creates density, then integrated density creates "good space." With these concepts researchers are able to explain cities in terms of their configuration and the direct relation of that configuration to efficiency, social usage, acculturations, environmental impact and quality of life.[591]

We are also able to associate and ground qualitative, conceptual, and traditional approaches with quasi-empirical, knowledge-based inquiry for design decisions, where

multiple facets can be tested and renegotiated within an integrative spatial model.

Incorporating urban design concepts, methods, and spatial configuration modeling

software developed by *Space Syntax* (Hillier, *et al*), we are able to emulate empirical

data to lead to a better understanding and focus on specific spatial configuration

problems occurring in a real-time environment to then build formal, objective basis for

proposing viable solutions. *Depthmap$_{TM}$* in particular, analyzes existing fabrics as well

as proposed modifications in new ways. Based on an urban area's specific spatial

configuration, this software analyses movement and connectivity using different types of

space and line analysis. By merging our traditional methods of urban design with our

knowledge gained by this form of analysis of the physical spatial characteristics, we are

able to fine-tine the urban fabric systemically.[592]

Understanding spatial configurations within urban systems reveals *how* collective

and complex city patterns perform,[593] but also how various, even divergent components

work in spatially dynamic, holistic, and integrative ways. Specifically, urban

configuration shows that integration of components is a value determined by the flows of

particular serial connections and movements between key places within the system. The

success of an urban fabric depends on the integration of particular roads to the rest of the

system. It has been shown that city areas that are poorly integrated indicate problematic

zoning and use adjacencies and thus become subject to increased marginalization, higher

crime, and lower economic gain and quality sociability. Conversely, areas with a higher

integration value have lower crime rates, are less impoverished, have better quality, and

more productive growth. For instance, on average, dwellings which open onto well

integrated lines are significantly less burgled than those that are segregated. Also the

segregated lines tend to be much poorer areas than those that are integrated.[594] Thus

cities are defined by lines of movement. Is it any surprise that shops and heavy

pedestrian movement tend to be found on heavily traveled lines. These are the lines most

integrated into the system. The quality of physical connections and holistic integration

between varied spatially oriented functions and distinct places within urban

configurations is significant to a successful urban pattern, its long-term usability,

sustainability, and livability. In addition, this may also lead to an understanding of how

to create better and more viable connections while also framing (holding-in-place) the

authenticity of distinct cultural arenas.[595]
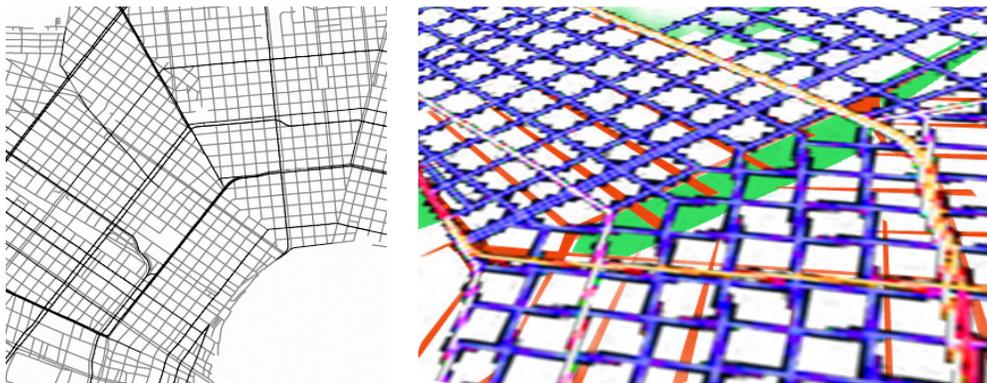
Figure 5.5: Existing Axial Configuration Analysis and Composite.

The first form of digital analysis we incorporated on our NOLA model was axial

line map (Figure 5.5). Through the space syntax software, we tested and analyzed the

existing road configuration and were able to see where problem areas of transportation

and urban decay were happening simply by spatial configuration analysis. In addition to

the use of modeling software, we incorporated site visitation, walking the actual streets,

talking to people, as well as noting unique characteristics worth acting upon, while

observing points of failure to confirm the presence of problematic areas to be addressed in the design process.   While our initial research studied the whole of the NOLA city fabric, we then began to focus on what we discovered to be various, distinct problematic areas. From this distillation, we analyzed and began design scenarios for the primarily riverfront areas of Lower Garden District, Downtown, The French Quarter (*Vieux Quartier*), Tremme, Bywater, Marigney, Faubourg, and Upper and Lower Ninth Wards. We later concentrated on the areas of the city that would benefit most from configurational modification. From our analysis, we focused on the conglomerate and connecting areas around the bend of the Mississippi River and which frame the *Vieux Quartier* (Treme, Faubourg-Marigny, Esplanda Ridge, and Bywater), the historic epicenter with some of the oldest seeds of what now forms the particularly unique character of the NOLA urban fabric. Currently, this particular area indicates neglect and a spatial configuration that is not conducive to the rebuilding efforts, and instead presents pockets of congestion, unusable zones, and increased socio-economic marginality. Using an axial analysis map of NOLA we find that the only "main" road running through our site that was truly integrated into the system, was St. Claude. The others (Esplanade and St. Bernard) had places of discontinuity, as also indicated by their isolated relation to other parts of the city. Many of our studies also reveal that the historic configuration pattern before modern zoning practices was actually more conducive to promoting local identity as well as for movements of peoples from local place to local place, thus preventing isolated and neglected zones.[596]

Although, because of its particular central and strategic orientation as a hinge-point and model to the city as a whole, many issues bear and overlap within the urban structure within this particular area, dependent on a clear and inter-connective urban master plan. Possessing both positive and negative in attributes, within the particular, the whole is reflected. As an intermediary zone between many districts as well as containing the primary routes between economic centers, this area plays a primary role in the successful development of the greater city fabric. Our model proposes that a solved configuration would foster spatial workability into other adjacent districts, primarily those of the most devastated areas in the lower less developed areas along the Mississippi. Because our site's proximity to the French Quarter which was built on higher ground, there was only a few feet of flooding from Katrina and little need for more effective storm control. With our main goal being urban revitalization we began to analyze the existing conditions in this area. We approximated densities based on the existing zoning and land-use, researched public functions in the area, and most importantly we studied the transportation and systems of movements. We came to realize that the area had become so congested *because* of the way the city grew, leaving many unresolved areas in between places and confusing and marginalized areas localized patterns of movement and living not conducive to social or economic well-being. Separation between public and private, between industry and living, and between distinct locales and global tourism had not been negotiated. Zoning and transportation methods had actually created zoning and transportation problems. For successful revitalization of both the urban fabric and the socio-economic status, the physical urban

configuration itself, especially in this key region, must be resolved and integrated to enable essential issues of increased density, bettered transitional movement, socio-economic integrity, socio-cultural identity, environmental sustainability, global connectivity, and thus collective communal viability.[597]

Spatial Re-Configuration and Application

As a result of the inital analysis phase, we concluded two basic configuration issues: First was the issue of public corridors that presented disconnections to otherwise transverse axial corridors and discontinuous flow from place to place. The areas are shown to be vital transitional spaces between districts and economic activities, but indicate a spatial configuration is not conducive to productive connectivity. Second, the distinct areas of town had poor circulation patterns and unresolved, un-integrated spaces within them and had developed problematic transportation flows from overly public areas into private residential areas, contributing to the marginal quality of living for many local inhabitants. Spaces allocated for housing and privacy indicate few buffer zones for mediation with areas of high tourism and transitory living, thus subject to higher crime and less security. The resolution of these is considered vital for a bettered well-being and quality of life.

A unique spatial identity emerges (Figure 5.6) as an opportunity for re-filtering traditional modes of design through modern spatial configuration technologies to analyze and thus derive potential working models for urban space through the notion of a spatial configuration. Based on the problematic and discontinuous areas, several road configurations were generated that would integrate movement better into the whole

system, but applied design decisions re-emphasized the historic nature of these roads as distinct, promenading axial *allee* connection-ways as they once had been (Figure 5.7).
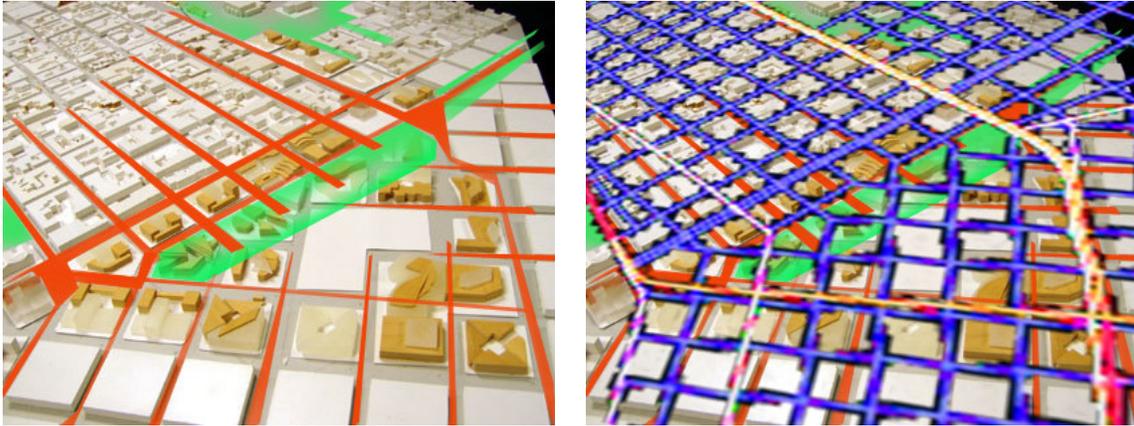
Figure 5.6: Spatial Reconfiguration and Overlays in Process.
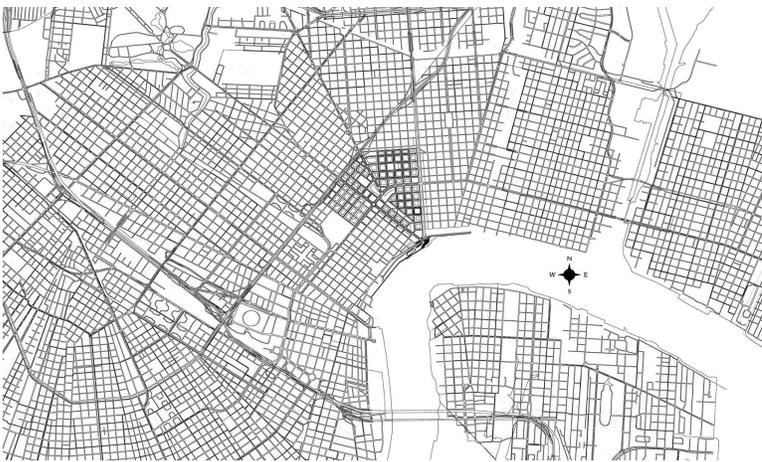
Figure 5.7: Spatial Reconfiguration and Overall Urban Fit.

By incorporating spatial analysis software, digital models were created of these configurations and thus systems that fostered the best flow of traffic according to known case study models could now be also promoted in conjuction. By continuously and hermeneutically cycling the process we were able to keep discovering new areas we could improve and understand how to fine-tune them. The final re-configurations were re-tested by simulation and found to work in correspondence with our predictive designs.

Density modeling and walkable zones are overlaid alongside movement patterns and correlated with design modifications to promote workable and measurable, use oriented outcomes (Figure 5.8). *Depthmap$_{TM}$* , developed by *Space Syntax* (William Hillier, *et al*), in particular was a vital tool in the process of creating this new configuration because we were able to use simulated empirical evidence to guide our process. Without it, the project would have been based on simple abduction, an educated design guess that carries with it little long-term epistemic accountability or performance value.
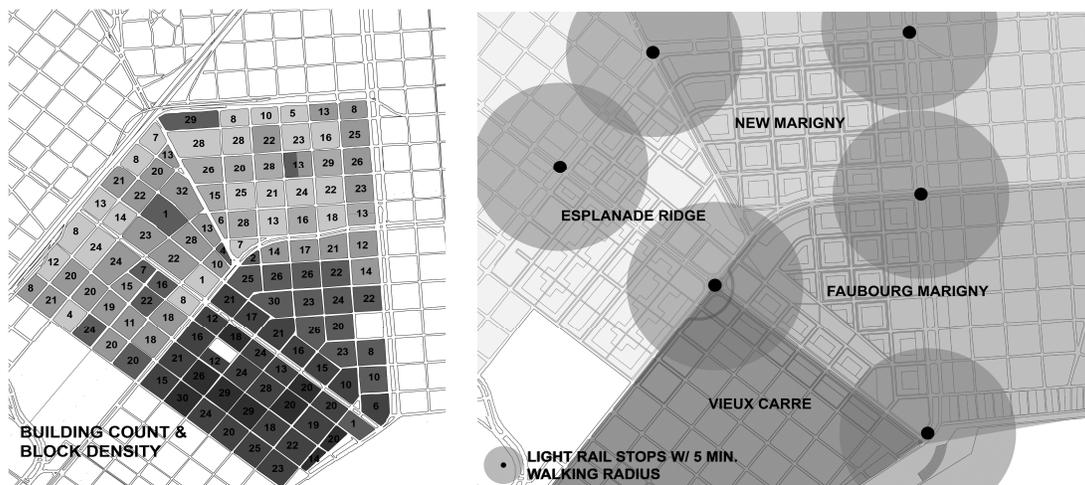
Figure 5.8: Density Analysis and Walking Zones.
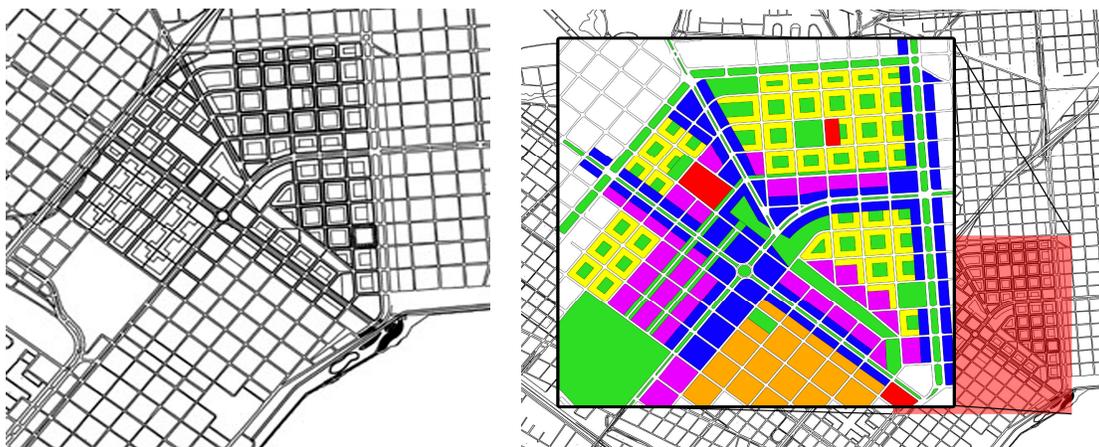
Figure 5.9: Re-Configuration of Connective Areas.

During the design process, the distinct commercial, residential and public areas within the site were kept separated, but spatially integrated by not only building use but by creating a circulation configuration that would encourage development in a positive and healthy direction. The main commercial corridors would remain on the main roads, however the existing arrangement was problematic because of the way this section of the city had expanded in piecemeal and then neglected over time, leaving the areas disparate and discontinuous. The main roads had been confused and blurred over time with unplanned building type adjacencies (e.g. housing on the main roads and big business parking lots in the middle of residential areas). The project proposes ways (Figures 5.8 & 5.9) to connect the main intersection of Esplanade, St. Claude, and St. Bernard, nearby historic and commercial areas, residential areas, and local green space (pocket parks) to the Mississippi by way of inter-connective pathways of varying scale and a shared greenbelt and buffer zone. The greenbelt would start in an open market and transportation node at the busy commercial intersection of St. Claude and St. Bernard, proceed into a framed, open public gathering space for the neighborhood, (known in particular as a traditional place for Second-Line and Jazz Funeral processions), then terminate at the Mississippi River at a second node for transportation and public connection to the French Market and *Vieux Quartier*. At the commercial corridor, the belt would draw traffic along Espanade through the commercial area and into a large open gathering area and market, conducive to locally operated eateries and venders. As a buffer it limits flow between districts through our residential areas, creates functional green space for the residents, and keeps the commercial traffic to the main roads without

limiting movement, particularly pedestrian, for our local residents. The belt would also serve as part of the water drainage control and foster multiple purposes to promote its urban value.[598]

NOLA Case Conclusions

This exploration leads to an essentially structuralist, synthesized understanding of the interconnected contingencies between these components and the generation of new urban form facilitated through emerging analytical technologies. For successful and holistic revitalization of an urban fabric, the physical configuration itself must be resolved and integrated to enable other essential issues. Unique spatial identities emerge in a design scenario for NOLA' FauxMarigny-Bywater area through interactive modeling and re-filtering traditional contextual analysis, content interpretation, conceptual articulation, and design strategy through the applications of *Space Syntax* spatial configuration software (Hillier, *et al*) and its capacities for digital simulation of empirical data, system integration, and connectivity modeling to thus reveal specific problematic workings as well as many unforeseen complexities. Urban design responses are co-facilitated within formal, objective reasoning that systemically connects emergent spatial configuration and socio-structural frameworks and the explicit content of research associated with traditional approaches.[599]

The Rural American Heartland City *

Overview

This research negotiates an urban design and regional development scenario as a model for small city revitalization in the Heartland of America, a region now ironically wrought with wholesale sprawl mixed with socio-cultural, economic, and environmental disparity. At the perimeters of what were once thriving small communities, indiscriminate large-scale developments have grown in scale, while basic qualities of authentic life and identity associated with the original city impetus are decaying. While originally European influenced, the cities within these regions are left with a piecemeal and fragmented life-scape with no distinct underlying approach linking them together in a co-substantiating and holistic way.

Herein, four European embedded case-studies for development are introduced as re-(in)forming and re-vitalizing to the framework of design for these communities. While each approach engages connectivity to others, shifting economies, and the flux of peoples within the global community, distinct emphases are placed on unique regional concerns and maintaining particular places, local characteristics, and cultural identities. Centered on stakeholder-based, critical hermeneutic inquiry and on what its participants believe constitute beneficial, regional communities, multilevel attributes are

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* Reprinted with permission from "Regenerative and Interconnected Communities
  - (4) Embedded Case-Studies and (1) Regional Revitalization Proposal," Anz, C. K.
  and Poggas, Christy (2009). *Advances in Architecture, Urbanity, and Social
  Sustainability, IIAS-2009 Advanced Systems Research and Cybernetics,* Volume III.
  (International Institute for Advanced Studies in Systems Research and Cybernetics:
  Forthcoming 2009).

acknowledged and incorporated as active and creative components of a continuatively re-generating, interconnecting, and re-vitalizing (beyond 'sustaining') process with(in) the environment and greater community.

Introduction to an Unresolved Trajectory

The research here discusses an urban design and regional development in the Southern Illinois Region through the lenses of four well-documented and successful case studies. The targeted region, framed within the Ohio and Mississippi (upper and lower) Deltas is representative of the 'American Heartland' and its historic development. The research views the area as developing in four major developmental stages: Originative Settlement (Indigenous), First wave European Founders (French and Spanish), Second Wave Founders (US English and Northern European influenced 'manifest-destiny'), and Post-War (escalated growth, suburban sprawl, rural and urban-center decline). In this, the primary mode and the root of current socio-environmental crises for these regional developments rest in the latter two, more recent developments. Characteristic of manifest-destiny cities, the areas were laid-out primarily by surveyors based on effective land-sale, area coverage, relation to trade and exchange routes (train), and corporate structure (primarily coal industry). However, key elements of historic European traditions manifest and adapt to their new locations in the forms of town-square layouts, axial boulevards (the typical American 'Main Street' or strip), and their distinct architectural typologies, particularly in the design of public buildings. Many places within this region also even show trace utopian influences from their Masonic, religious, universalistic, or imperialist origins, showing up in key spatial arrangements, central and

representative of their power structures. Beyond the wholesale distribution of land, the spatial layouts of model American Heartland cities and their relations each other and to their rural settings indicate that they became places filled with human civility, social interdependence, living communities, and a way of life and meaning.

For the Post-War and Post-Fordist epoch we currently face, the 'Heartland of America,' a region once known as a model for community and solidarity, is now ironically truncated by another form of wholesale sprawl and global corporate development. At the perimeters of these nostalgic town-center communities, indiscriminate large-scale developments have grown exponentially in scale (and ironically still continue within pause despite the identifiable issues we face), while basic qualities of authentic life and identity associated once known by its distinct inhabitants are decaying. This indiscriminant nature of this sort of 'unbridled growth at any expense' has left many areas with little or no symbolic center nor clear sense of identity or place. While originally European influenced, the cities within these regions have long left their counterparts behind and are now left with a piecemeal and fragmented *life-scape* with no distinct underlying method or mindset bringing them together in a co-substantiating and holistic way.

As systemically connected in an overall environmental picture, once thriving urban cities and small-town communities now face ever-growing problems of urban- or town-center disintegration, economic disparity and distribution, socio-cultural separation and loss, driving distance and energy use, and overtly resource consuming modes, all to the overall detriment to both the environmental and human condition. Our urban places

have overtly become inhumane, energy-wasting, congested, and polluted, consuming resources and energy along with human identity and the overall well-being of their inhabitants, of which the affects on both the local and global community have been devastating. In the Mississippi Delta, increased poverty and decreased life-quality follow a viscous pattern of decay while its once flourishing cities are literally disintegrating and being forgotten, its inhabitants unrepresented and its places unaddressed. As a typical representative model, the greater and conglomerate mixture of environmental problems associated with flooding, ecological destruction, demolition waste, sanitation and hygiene, neighborhood decay, transportation disarray, social separation, cultural loss, and economic despair collectively and participatory with its local citizens as the primary stakeholders. Along with the physical, environmental issues, many of our cities and their many participants seem to be at a loss personally, socially, culturally, even spiritually. While this is also prevalent in many places around the globe, it is particularly evident in the United States, where urban developments simply do not correspond with the multiple socio-environmental issues-at-stake. Based on their original cities design models, mixed with current crises, the preceding case study models offer ways to re-(in)form and re-vitalize the framework of design for these cities and their surrounding co-substantive network of regional communities based on another trajectory of growth occurring in their European counterparts.

The Target Case Application for Rural Development in Heartland America

The four referential case-studies present above were used as models for city and regional development in Heartland-Delta area, primarily centered from Southern Illinois

University in Carbondale, to develop similar synergies and interconnected systems that could inform viable development strategies. The studio took a similar stake-holder approach as the ETH model, *first* identifying our components, our amenities, the varying forces, needs, and the relationships as a way to foster connective applications.[600] And similar to the Mannheim/Rhein-Neckar model, the city of Carbondale and SIUC as an intellectual and economic hub & asset for regional development, an overall 'vision statement' based on the critical and regenerative relations of "*Science* (University-as-hub)-*Economy* (Local/Regional/Global)-*Life Quality* (particular to place, environmental uniqueness, and regional identity)" was developed along with a localized set of objectives/criteria supporting each position.[601] The economics of the region were of primary concern and thus were analogized in relation to amenities that could foster positive development and co-beneficial development. A connective 'matrix' of stakeholder positions and supportive amenities and objectives was then developed to negotiate with other positions and to map and model a holistic framework of affairs. As shown in Figure 5.10, the studio developed a creative brain storming and an integrated knowledge model to de-center the individualist concerns (often in dominance or conflict to the overall balance), so that they can be re-centered along a common sustainable development plan based on the vision.

Figure 5.10: Categorical Stakeholder Matrix and 3D Integration Composites.

For Carbondale city, the studio then developed plans to facilitate local connected communities as knowledge stakeholders working toward common, quality well-being, regional identity, and sustainable goals (culturally, socially, economically, environmentally, etc..) based on identifying distinct neighborhoods and associated zoning/ land-use, voting precincts, crime-watch, asset planning, particular physical characteristics, and participatory interaction; to foster a cascading affect and model for other cities within the network leading to regional connections under the same auspices. All these categories were placed into a single connected mapping model to guide the studio process and develop an overall case study for our city from this we went into a redesign of neighborhood plan, which was non-existent before, a city master plan, new zoning overlays and development of enterprise zones to boost economy. Based upon a series of community surveys of participants within the city, a neighborhood action plan and corresponding designs were developed (Figure 5.11) to solicit community response and input.
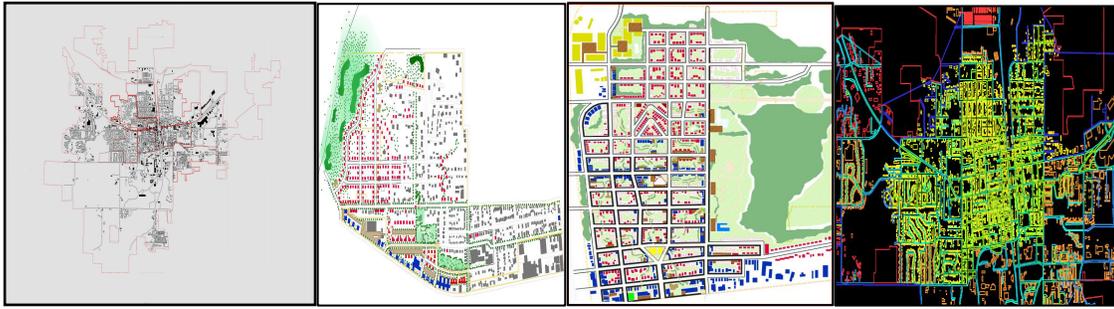
Figure 5.11: City Neighborhood Re-Development Drawings and Configuration Studies.
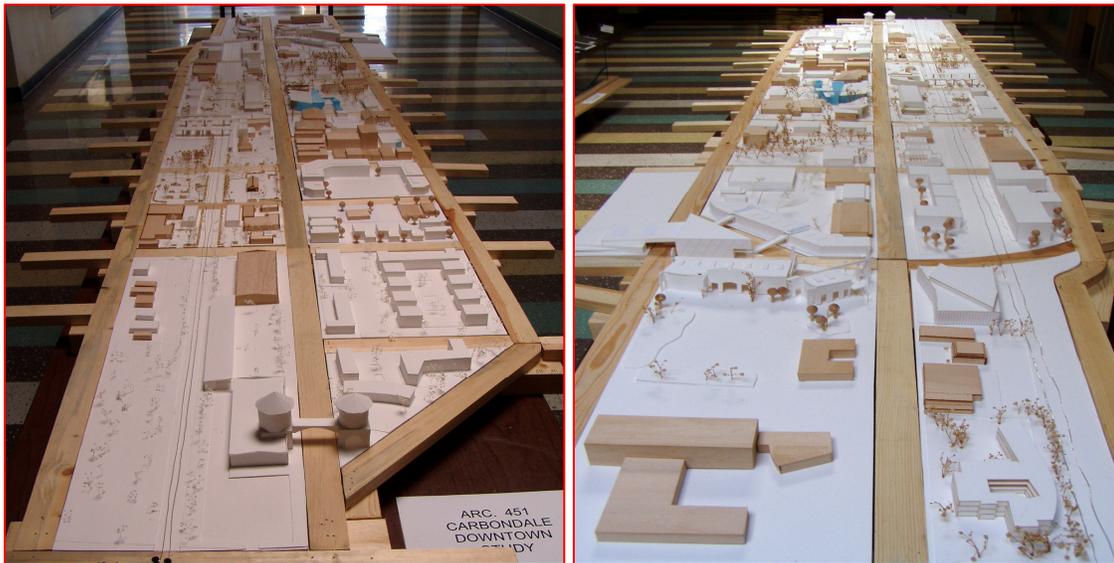
Figure 5.12: North-South Corridors and Downtown Re-Development Models.

Based on work by *Space Syntax*,[602] the studio also developed digital simulations, proximity studies, spatial configuration studies and connectivity patterns. These were then overlaid together with varying city functions within an overall map to analyze how they physically relations, spatial efficiency, and integration (Figure 5.9). Adjustments were made in the fabric to increase integration along enterprise zones, to de-integrate (privatize) residential areas so that neighborhoods would remain intact, and be separate from the heavy flow of traffic and interruption of daily life. With the collective brain-storming within community settings involving neighborhoods and action groups, mixed

with traditional methods of intuitive design within the studio setting, the design provide each neighborhood with given unique care and approaches based on the dynamic of the inhabiting stakeholders. The designs of the neighborhoods in-turn frame and culminate into redesigns along the main N-S and E-W corridors, the town center and square, and its public intersection with the central train station. Here an economic and cultural center, based on a celebrated university connections and transportation hub, was developed into design scenarios to generate public response and developer proposals for downtown re-investment (Figure 5.10). This area is intended to be revitalized into a distinct pedestrian friendly and public-oriented place with markets, eateries and shopping within walking distance to neighborhoods and its gateway to the university campus. This proposal has fostered additional interest and involvement in the neighborhood and downtown areas, with future plans underway.

Following the City of Carbondale's in-progress, preliminary '*Comprehensive Plan,'* the project re-modeled and enhanced in physical form the repetitive language of a "*better quality of life, bettered city appearance, bettered city patterns, linked or connected network of public paths, functions, neighborhood parks and green/open spaces as well as distinct buffer zones between developments and functionally zoned areas.*" In this was also increased economic development along-side the designation of new recreational facilities, neighborhood parks, greenways, and open spaces. Preservation of unique natural areas and ecological features (four overlapping bioregions), natural resources, and overall betterment of land-, air-, and water-quality were paired with preservation of significant historic sites and buildings.[603]

American Heartland Case Conclusions

Within the Heartland Delta context, the primary stakeholders are based on neighborhood areas, their participants, and their distinct interpretations of place, community, and regional identity. In addition, regional and global stakeholders are considered in their relation to economic growth and interconnectivity, an impetus rooted in theory original exchange oriented locations and layouts. The goal is to develop extensions as a regional/city network using the university as the hub within the region, a way of boosting the economy at a local, regional and global scale and overall life quality as particular to places the way the can happen. The goals are intended to be co-supportive of local and regional identity, purposeful as an on-going means, sustainable as well as sustaining, and harmonious balance of nature and culture that supports. From this the process will cycle back to analyzing the connective region on how this might effectively play a role in the greater Delta network, which is were we are with our future studies and plans.

CHAPTER VI

CONCLUSIONS WITHIN CONTEXT -

AN EVER-EMERGING *CRITICAL ENVIRONMENTALIST* EPISTEMIC

FRAMEWORK FOR ARCHITECTURE

Everything that is is holy.
   - James Agee, *Let us Now Praise Famous Men* [604]

Thus the framework of understanding a work depends on interpreting it in the light of its origins or creation, its forms, materials, and contents, and its ethical and intellectual impulse back to social, natural, and perhaps spiritual reality.
   - Robert Mugerauer, *Interpreting Environments* [605]

Reiterating the introduction of this research, the problematic of current epistemological hegemonies and their overt operational modes manifested in practices gains more significance as our knowledge of the greater domain of the environment we inhabit as a total *life-place* becomes more systemically interwoven and complexly heterogenic. While at the same time, the modern approaches to the issues have proved to be progressively more reductivist, overtly theorized, and universally globalized in regard to multifaceted and content-rich particularities of distinct place(s). Our ability to make sense of the *world-we-know*, our place, in significant and meaningful ways is becoming potentially less attainable, especially to those distinct cultures which seem to be in the way of this hegemonic and even universally alienating agenda. The issues compound even now, manifesting in regards to *how* ongoing developmental practices occur in many places that are also indicative of greater environmentally systemic problems that the world is inevitably and reciprocally inheriting in various degrees of degradation (e.g. economical, social, cultural, epistemological) at a global scale. The

extent of this reciprocity may not be fully understood until it reaches a critical state of loss. Since the root matter is inevitably environmental (*Umwelt*), a total systemic and epistemic concern, damage to the greater domain is, in essence, damage to one's own individual well-being. An understanding of this co-vested interest seems to be of vital concern, however the current modes of production, supported by a detached *episteme'*, proceed with little resistance.[606] A collective realization must occur that within the actual systemic and interdependent nature of the world (our world image) with its complex environmental concerns, cooperation and critical cross-pollination (the productive integration of knowledge for a shared concern), along with care and consilience becomes more and more crucial. Albeit, more than simply finding a reductivist way to frame this enormous problematic, the issue has to be extended to *how* this rich complexity can become productively intelligible within a framework designed for *reciprocal vitality* while maintaining *authenticity* of *identities-* and *meanings-in-place*.

To this research, as also discussed along-side such architectural and cultural theorists as Akel Kahera, the losses of cultural identities within many places [particularly third-world, ghetto, or non-western] as brought on by the modern, global model are also coincidentally coupled with the environmental degradation. The *terms of epistemic reference* upheld by many other substantial cultural views that would otherwise inform us in regard to the necessities of both enabled social conditions (inclusive of all agents and their distinct cultural bearings) and overall environmental conditions (as the systemic reference of knowing) is often placed in dualist and corrupted terms in relation

to knowledge, and thus seen as counter so-called modernity or progress. Instead of

acknowledging the socio-cultural mode of being as perhaps also sustaining an inclusive

and interconnective image of the greater environment, even at a spiritual level, it is set as

less significant and thus ironically overridden and replaced by counter-modes of being

and knowing.

To them, the debate is related to several forms of *dysnomia* that include

globalism and local government; however most of all the debate is concerned with the

co- question of socio-cultural and environmental destruction through dominant western,

colonial epistemological position (hegemony) and subsequent practices that would drive

out all other views, counter to the model of systemic connectivity as the fundament

mode of environmental inclusion. To Kahera, "the consequences of the change brought

on by ideological conflict are both intellectually dynamic and acrimonious.   And as

such, one point is true. The advent of [such conflict] meant that environmental change

would have to come from within, but the causes of change ironically had *extra muros*

origins." To them, the already fragile geo-political status of the many communities that

do not 'fit' into the western modernist model has been progressively pecked away until

many places in the world no longer have their own symbolic cultural and even spiritual

'centers,' coupled with the distinct repetition of environmental decay by the modern

model of technological progress at any expense, un-tethered to the realities of the human

condition.[607]

To Anz and Kahera in discussion, this tendency over-writes thousands of years of

irrecoverable culture and confers power to dominate western hegemony to 'fix' or

upgrade the human condition, gentrifying or 'taming the wilds' so to say. While at the same time, our detached or abstracted urbanity, along with its view toward the overall human condition, override the same epistemic hegemony in our western society's capacities to examine what has gone very wrong as systemic, environmental problem in modernized societies.[608] This practice does not empower or enable the local inhabitant, much less permit a rich fabric to emerge in its own dynamic way. The impact of large-scale urban development projects undertaken in the name of progress and reconstruction on the reconfiguration of cities and identities with a new un-grounded essence of being has been devastating on the historical, cultural foundations upon which people draw enriched identity and thus disempowering for its inhabitants at many essential levels of operation.[609] Our western cities in particular have also become disparate cultures, lessening family and social values, religion and community, as identified by Jane Jacobs in *The Death and Life of Great American City* (1961). We have re-placed *Place* with Diaspora, proximity with travel distance, social ties with barriers and mistrust, care with unaccountability, and authenticity with blatant simulacrum. We do not interact well and with this we are at a loss on how to understand or 'fix' our own problems, much less others within the dominant modern, counter-environmental model.[610] If such a disconnected architectonic (a system of knowledge and constructions with respect to Kant) episteme' is produced, the long term structural effect on its belief systems, its social actions, and thus ingrained and deeply rooted identities become irretrievably damaged and tainted.

What then, is the '*critical environment*' for architecture and our urban settings, especially as it pertains to urban and community development and its definitive 'fit' within the greater systemic domain? A reciprocating epistemic framework that is also deeply entrenched within the socio-environmental conditions for human thought and thus creative constructions can produce an architecture that is not only immanent, but also necessary to the identity and on-going well-being for its inhabiting agents in each particular place. This architecture would exist not as separated aesthetic abstractions to all places, but as a vital part of its own conditional 'emplaced' framework, one that is also the very co-substantiating essence of enriched experiential being with/for its 'embodied' participants. An architectural creation must retain the mnemonic fabric of the distinct community, its place, beliefs, identities, practices, and rituals *where* it contextually resides and *how* it is 'known' as a part of everyday being. In this, the thinking process involved with urban design and community development must also take into account the intangible aspects of being and identity in a city- that is, the ways in which the city is constituted through the memories and spiritual beliefs of its inhabitants and the role of such (as also environmentally inclusive) in asserting primacy to human urban existence, both materially and ephemerally.

To correspond with the aforementioned multifaceted array of issues, the research merges multiple informants and practices supporting distinct socio-cultural and environmental co-substantiation. The ideals for *Critical Environmentalism* were distilled from an extensive literature review as a common theoretical theme (and supplying the most descriptive title to bridge concepts) across multiple disciplinary

domains revolving about holistic environmental concerns (now an inclusive and conjunctive world-image of social, ecological, philosophical, *et al*). For the purposes of constructing a strong theoretical base for human affairs and knowledge, *Critical Environmentalism* stems out of critical social theory and its inherent bearing in hermeneutic-phenomenological and social dialogical processes, while environmentalism supplies the common ground for thought and our reason to bring ideas together and collectively produce. Critical theory, and its mode of thinking, involves systematically organizing complex, multi-dimensional factors. In the case of this research, it plays a substantiating role for architecture in the total environment to produce corresponding solutions by supplying continued vitality to our decision making processes and being reciprocally and critically accountable within the world we engage. Pragmatically, it also interrelates ideals of radical environmental education, community and place-making, social constructivist theory, and social praxis as a way of gaining direct access and viability for this critical environmentalist thought-in-action within a total *life-place*.

Essentially centering the environment *(Umwelt, milieu)* as an encompassing and interconnecting catalyst between multiple disciplines, social environmental practices, and philosophies, *Critical Environmentalism* promotes a multi-methodological, mutually unifying and co-enabling epistemological framework, encompassing and interconnecting multiple points of view along common lines within environmental discourse, that can significantly inform and thus transform architectural thought and practice to foster increased vitality and a certain co-invested attention to the subtle complexities of the greater domain.[611] This unification within this proposed framework fosters communally

oriented, co-enabling, and co-nurturing cross-pollination of knowledge that cultivates increased vitality for all vested stakeholders in our shared environment. Because of these key components, it 'emplaces' the 'embodied self-in-the-world' as the fundamental and accountable base with others for knowledge construction and the medium for interchange. These notions then focus on varying applications and cross-referential methodologies in order to let a viable framework for creative urban interventions emerge through a rich, already-present palimpsest of socio-cultural contexts, practices, intellectual memories, and beliefs.

Supportive of this proposal, this discourse can be further extended to foster alternative multi-methodological approaches to urban and community developments through a revisional and (re)generative framework composed of varying components. Because of similar ideological alignment and goals, additional work along the lines of *critical regionalism* (from Frampton, et al), *critical reconstruction* (socio-cultural and historical traditions, rooted in Habermas' hermeneutics and 'communicative action'), *pragmatic contextualism, gender studies, transpersonal ecologies* (Arne Naess, Warwick Fox, *et al*) and *progressive environmentalism* (multiple sources) should be encouraged to provide a connective framework can together form broader philosophical and applicative possibilities along the lines of the *Critical Environmentalism*.[612] It is argued here that like our catalyzing position and worthy of interconnective inquiry, these approaches can foster design based in rigorous inquiry formed around *inclusive* hermeneutic understandings of critical social and contextual frameworks as conditions for responsible, creative *thought-* and *action-in-place*. Filtered through this distinct

critical socio-environmental theory, supportive of socio-cultural/socio-natural structures of cities, it thus fosters co-vested interests of all stakeholders in long-term development; it presents an alternative to the dominating 'modernity' and universal globalism of the western hegemony, without loss of local identity, meaning, and value. It fosters letting viable frameworks for urban design and community interventions emerge through rich, already-present palimpsests of socio-cultural contexts, practices, critical identities, and beliefs, etc. as well as reciprocally cultivating as their place in global, universal concerns. By placing environmentalism within socio-epistemological parameters, its tenets also promote broader definitions across divergent perspectives, critically embodied and epistemologically co-accountable within a total, shared *life-place*, the place for the possibility of knowledge.[613]

The proposed theoretical position of this paper also supports multi-methodological approaches that include small-scale or *grassroots*, 'insider- or participant' (also referred to as "collaborative" or "interactive") oriented critical social theory model for urban inquiry, reconstructive practices, urban studies, architecture, social action, community practice, and advocacy. [614] In this, the distinct and even subtle socio-cultural *identities* of a locale (or *place*) set the conditions and inhabit the essential foundations and impetuses upon which to graft and thus ground design interventions. Identities are allowed to co-substantiate themselves through critical placement in an intrinsic, *already-present* regenerating (self-sustaining) mode, letting the universal human condition become reciprocally inferred through each *particular*. This notion also brings to the surface distinct significance on geographic place and bio-connectivity to

the greater living sphere and co-generative. This fosters co-vested interests of all

stakeholders in long-term development and productive vitality. As a model for

community and social development, this multi-dimensional approach advocates effective

and continuative interchange of knowledge and co-enabling rapprochement between

divergent modes of thought in the co-constructive processes of our total *life-place*.

The critical relationship of knowledge required for our complex endeavor is of

particular concern, as the epistemic framework for such sets the dynamic conditions on

what to produce (inclusively) and what not to produce (exclusively) with each situation.

The identity of each situation depends on particular understandings of knowledge

engaged in particular places and beliefs, therefore development must be facilitated from

within and by its own participants as the primary vested stakeholders. The right tools for

the right job, as for design, can be drawn directly from the context where they can be

used and thus form meaning (with respect to Wittgenstein).[615] This supports the notion

that not all working methods actually work in all places or contexts – that there is simply

no one recipe or procedure, but that there are many that can be incorporated in

conjunction and that careful inquiry may help to identify the most connected and fitting

methodologies. On the other hand, a model of increased understanding of particularity

tends to critically co-substantiate other locales, which should be recognized by current

modes of reconstruction as a means to its own definitions. We dialectically struggle

between both particularities of context in-flux with varying authoritative 'universalisms'

and the possibility of a more transversal (inter-monadic, with respect to Guattari) and

dialogical relation that could otherwise better inform, correspond, and retrieve

fundamental operators within our more complex framework and authentic conditions (actualities) for knowing beyond those terms.[616]

The long-term viability of architectural endeavors is critically judged within a systemic framework of affairs; therefore knowing its relation to critical social praxis and its *place* or 'fit' within and throughout the greater, shared environment is essential. The framework for architectural knowledge needs to account for its own epistemic structure as the medium where creative production initiates with corresponding models that foster a productive and effective interchange of ideas from broad ranges, while also co-substantiating in-place local identities and meanings. The positive transformation of the structural framework as the medium for the exchange of knowledge in turn transforms the corresponding social structure and thus critical human consciousness where knowledge constructions occur.[617] In order for current architectural discourse to shift its paradigmatic episteme toward the current environmental complexities it faces, an equally multifaceted critical epistemology is necessitated, one that establishes essential reconnections within our total, environmental *life-place*.

Critical environmentalism promotes a holistic multi-methodological, mutually unifying and co-enabling epistemological framework that can significantly inform and thus transform architectural thought and practice to foster increased vitality and a certain co-invested attention to the subtle complexities of the greater domain. As a conditional framework for urban thought and community development, it supports retaining the original and richly engorged epistemic social structures of the city and its socio-cultural framework, a rich palimpsest of beliefs, memories, and even interpersonal feelings

coupled with an understanding of their interdependent qualities in relation to the greater environment. The methodological positions disclosed therein emphasize critical re-construction of culture and community, its underlying ideals, its localized practices, and the distinct character and context of place while converging global multiplicities and the knowledge of multiple locales of the current comprehensive regeneration and redevelopment schemes. It promotes dialogic engagement with global concerns without compromise to the local identity of its varying agents that would otherwise be eradicated under the auspices of alienated reconstructive practices. The critical method instead promotes hermeneutic engagements that reveal richly textured intellectual fabrics and creates significant narratives and themes upon which to graft *corresponding* solutions. It advocates productive interchange and rapprochement between divergent agential perspectives during the co-constructive processes of our *life-place*. The goal is to develop creative architectural endeavours within a framework of knowledge that progressively and critically promotes betterment of life through co-enabled identities, community richness, vital connectedness, meanings, and a strengthened operational relation within and of the shared environment as a total *life-place*.[618]

ENDNOTES

CHAPTER I

[1] Albert Einstein (original source unknown), quoted in William Peña and Stephen Parshall. *Problem Finding* (Fourth edition). (New York: Wiley, HOK Group: 200), p16.

[2] Pierre Bourdieu, *Pascalian Meditations,* trans. Richard Nice. (Stanford, CA: Stanford University Press, 2000).

[3] Alice Walker, *In Search of Our Mothers' Garden*. (New York: Harcourt-Brace-Janovich, 1983), 49.

[4] The idea of 'discourse' comprises all texts, discussion, or general knowledge about a particular-subject matter. Read later in this research where 'discourse' is defined and coupled with epistemology, post-structuralism discourse analysis, dialogue, critical social theory, hermeneutics, and communicative action. For architectural discourse as well as education, it is important to note that the research views discourse inclusively in terms of academic research, pedagogy, manifested artifacts, and foundational concepts, but also extends the view to reciprocally include the continued active state of the knowledge base into professional practice and to community engagement. It is important to note along these lines that discourse is intrinsically coupled with 'literacy,' a significant feature of dissemination. Literacy comprises basic knowledge or understanding of the significant concepts and structure of the languages and/or subject-matter we intend to use in communication or co-constructive practices. An epistemic framework would supply a set of basic features along particular lines to guide knowledge and thus action (discourse manifested physically as well as representative).

[5] Neycet Teymur. *Environmental Discourse*. (London: ?uestion Press, 1982); After roughly twenty-five years, we still face the need for continual reassessment of our disparate approaches to the environment. However, our multiple crises as impetuses have changed dramatically in recent times. As pointed out in a personal interview with Julian Hanson, professor at the UCL Bartlett of "Inclusive Design" and co-author with William Hillier of *The Social Logic of Space* (1984), Teymur's *Environmental Discourse* is one of the essential, "primary written sources playing a role in architectural education" along the lines of the proposed framework (critical socio-environmental discourse) and in understanding the discursive nature of the environmental subject in relation to our architectural endeavors. For more on Julian Hanson, refer to the text on socio-community issues, Chapter IV.

[6] The idea is for this research a composite adaptation of Husserl's 'life-world' and Heidegger's 'life-space'), albeit extended to another stance. While this paper derives this term from and links the proposed notion with these two precursory positions, the ideas are extended beyond into this initial discourse to bring in an added dimensions of *contextual* meaning (*axiology*) and *situatedness* (*place, topoi*). In addition it also attempts to leave behind many of the implications associated with Husserl's separated 'world' as dualist relation with knowing-agency. The goal also is to remove negative connotations or confusion associated with Heidegger's connections with the Nazi concept of the *Lebenswelt*. It also attempts to raise the idea from the Habermasian notion of an environment as simply neutral 'background' to practice and knowing. As such, it 'situates' knowing and being with an environment suited for being lived-in, emplaced, experienced, cared-for, and known-well.

See also K. Lewin (Sociology) in his notions of 'field theory,' behavior, and 'life-space,' stating that "human behavior is a function of an individual's' psychological environment"and that there are many individuals experiencing simultaneously, thus an ever unfolding range of contextual meanings. Another use of this term is taken up by Robert L Thayer, Jr. in his work, *LifePlace- Bioregional Thought and Practice*. (Berkeley: University of California Press, 2003). However, this research only briefly incorporates similar concepts in its proposed ideas of place, context, and community as forming along-side socio-environmental issues. Our discussion ties this environmental reasoning with social concerns and practice, in place, as a co-substantive basis for creativity as well.

While used interchangeably within this research, the 'greater socio-environmental domain' is can be further differentiated from the idea of '*life-place*,' in that the former is considered a systemic relation of knowing components and their representatives, while the latter (when referred to directly) brings the added

significance to the qualitative and axiological spatial conditions (the world of affairs and affections) which constitute the conditions for the distinct formation of virtues, meanings, ethics, and all things which separate life-giving and spiritually enhancing qualities from a purely mechanist or logical states. As a key aspect of the axiological mode of this research, the idea is similar to Peirce's tripartite discussion of *Tychastic, Anachastic* and *Agapastic* evolution, focusing on the latter (creative love, intention), albeit a more spatial and experiential life-forming mode. This greater spatial domain has to be thought of as vital and worthy of *caring* as it inevitably co-substantiates our own *being* as a phenomenological life-place for the origins and possibilities of knowledge, the place that makes thought and the conditions for thought possible. The *life-place* not only sets the conditions for knowing and being (like the greater environmental domain), but knowing it in *meaningful* and *qualitative* ways.

[7] 'Discursive' is seen here as a mode of digression, tending to stray away from the main focus of the subject-matter and instead coving a wide range of areas, often with no overall guiding or connective logic. Heterogenic is that which is derived from different sources or species. It is seen as consisting of dissimilar or diverse ingredients or constituents, often acting independently. This is seen here in two ways, one being as derived from indirect or non-corresponding modes to that of the environment. In addition, the heterogenic is viewed as originating outside of corporeality immediacy, that is, acting outside embodied knowing and its ability to make a accountable (or causal) effect. With an increasing complexity of world components, there is a decreasing ability for the current means to critically manage such a radical changes (reciprocal relation).

[8] 'Procrustean' is generally defined an arbitrary standard, preconceived theory, or system (of thought) to which exact conformity is forced, imposing stern and inflexible set of conditions or practices. The word comes from character in Greek mythology, Procrustes, who would violently cut off parts of his captive's bodies so that they would fit on his prescribed beds. Unknown to the captives, the size of the bed was secretly adjustable. This idea often is used to describe processes which keep us from thinking 'outside the box' or outside the rules of certain beliefs, often also adjustable to certain conformities.

[9] A 'framework' is defined for this research from multiple sources as a structured model based on a hypothetical and unified description of a complex entity or process. It can also be described analogously as a broad organizing structure, construct, system, skeleton, or scaffold, assembled as a set of essential concepts or theories, working together, guiding knowledge and action in a specific area. A framework for knowledge can also be described here in terms of an ontological structure of concepts as essential to knowledge.

[10] An *Umwelt* is considered both *with* and *in* (or even *of*), the inclusive environment of all participating components and their multi-interpretive meanings, as will be discussed in further later in this research (see also: note on Kalevi Kull, Chapter III on Environmentalism). Our knowledge of the environment (*Umwelt, milieu*) has to be raised to a total *life-place*, as discussed in more depth later. The same problems we see occurring physically are also occurring metaphysically. For instance and discussed in more depth later, the lines we create within our urban fabrics that cause energy use and distance (i.e. transportation and land use) are the same lines that create social and cultural separations.

[11] Image obtained online from *Wikipedia.com*, accessed June 15, 2006). According to them, "this image is in the public domain because its copyright expired in the United States and those countries with a copyright term of no more than the life of the author plus 100 years."

[12] Wikipedia describes this world-image or "*Worldview*" also in terms of the Germanic *Weltanschauung, as "a* comprehensive world view (or worldview) [that] is a term calqued [or borrowed] from the German word *Weltanschauung - Welt* is the German word for "world", and *Anschauung* is the German word for "view" or "outlook." It is a concept fundamental to German philosophy, mythology, and epistemology and refers to a *wide world perception*. Additionally, it refers to the framework of ideas and beliefs through which an individual interprets the world and interacts with it. The German form of the word is also in wide use in English text, as well as the translated form *world outlook* or *world view*. (http://en.wikipedia.org/wiki/Worldview (accessed February 11, 2009) Merriam-Webster online dictionary defines this term as "a comprehensive conception or apprehension of the world especially from a specific standpoint." (http://www.merriam-webster.com/dictionary/weltanschauung - accessed February 11, 2009)

[13] Again with reference to Herbert Simon and Necdet Teymur. Teymur is discussed at length in the environmental chapter of this research. In addition and worth noting, Carl Jung (psychologist and philosopher), remarked that "people cannot stand too much reality," which challenges assumptions about we view the world we live in, and what factors or perceptions drive the current modes of production and developments. The problem critically rests in our abandonment of the fundamental desires and capacities to 'fix' epistemological roots toward knowing the problematic crises-at-hand.

[14] Beyond the initial subject of this discourse, this reiterates similarly Herbert Simon's notion of complex systems as described in his *Sciences of the Artificial*. However, the term 'ill-defined' has been incorporated into many discourses with reference to many sources going back to such early philosophers as Anaxagoras of Lampsacus, who also saw that such systems as inseparable from the human condition.

[15] The research refers here to "thick descriptions," with distinct respect to Clifford Geertz and Gilbert Ryle's use of the term. The 'architectonic' here refers to Kant's systemization of knowledge in relation, as also picked up in extraordinary rigor by C.S. Peirce, of whom we pay great respect.

[16] Epistemology is basically defined as comprising "the systematic study of the nature, sources (or origins), and validity of knowledge" Epistemology raises questions of *what* knowledge is, *where* it originates; *how* we know what we know, *its nature*; and *how* it is formed, validated, or made legitimate (given authority) within a given cultural milieu. Moreover, it also is concerned inevitably with *how* knowledge becomes the basis or the 'sets of conditions' for future (emergent) knowledge as well as collective thought and thought-in-action. To Michel Foucault in *The Archaeology of Knowledge*, an episteme constitutes *"the total set of relations that unite, at a given period, the discursive practices that give rise to epistemological figures, sciences, and possible formalized systems; the way in which each of these discursive formations, the transitions to epistemologization, scientificity, and formalization are situated and operate; the distribution of these thresholds, may coincide, be subordinate to each other, or be separated by shifts in time; the lateral relations that may exist between epistemological figures or sciences in so far as they belong to neighboring, but distinct, discursive practices. It is the total set of relations that can be discovered, for a given period, between sciences when one analyses them at the level of discursive regularities.* For this research, this definition can be extended to the total, paradigmatic set of conditions, at a given time, context, and socio-cultural set, which validates and predicates knowledge and thus thought-in-action. (Re: Chapter on Critical Theory, this research)

[17] Paul Hawken, *The Blessed Unrest, How the Largest Movement in the World Came into Being and Why No One Saw It Coming.* (New York: Viking Press, 2007); See also: *Natural Capitalism*, (1999).

[18] Re: Kalevi Kull's concept of *Eco-semeiotics* and the *Umwelt*. Although identified in this research as the vital and significant, grounding framework for thought, the '*environment*' is generally defined in its English use as simply meaning the "surrounding world." More significantly though, the Germanic conception of the *Umwelt* as described by Jakob von Uexküll and Thomas A. Sebeok, extends this to mean the "biological foundations that lie at the very epicenter of the study of both communication and signification [*Bedeutung*, meaning] in the human [and non-human] animal." The term is also translated as "subjective universe," where Uexküll theorized that organisms could have diverse *Umwelts* (also world-views), even though they share [and collectively inhabit] the same environs. In addition, the French variation in social theory defines the 'environment' as the *Milieu*, "the social and cultural surroundings or landscape [field] of a particular area or domain." The social environment or social context is considered an assemblage of related social positions and social roles defined by the culture in which one is immersed, lives in or is educated. The social fabric, the people and institutions with which one interacts through social praxis or habits (actualization, application and performance of knowledge) provides a useable epistemological framework from which one acts. For example, there are artistic environments (artists in a given area), educational and professional environments (members of a university or of a particular disciplinary domain), political environments (members of a political party), and etc. The 'environment' for this research is the total environment, the greater shared domain or contextual conditions for the possibility of thought, meaning, and thus knowledge(s) to occur. Thought and the environment are brought together as a spatial totality, a socially interactive and interdependent epistemic condition. See later in the research on environmental issues an expanded discussion revolving around this concept. See

also the writings of David Orr, Arne Neass, *et al.*, who bring to light the inclusive, meaning generating, knowledge linking, and overall interconnected environmental condition.

[19] *Agency*, the first principle category of the *critical environmentalist* position.

[20] David Seamon, *Phenomenology, Place, Environment, and Architecture: A Review of the Literature.* Kansas State University Online articles (2000):

(http://www.arch.ksu.edu/seamon/articles/2000_phenomenology_review.htm - assessed January 2002)

[21] Human productions include all its deliberate creative actions, processes, artifacts, discourses, spaces, places, experiences, beliefs, and systems, etc. that have capacity to carry epistemological considerations.

[22] (*axiological*, fourth principle category)

[23] (*inter-operational*, fifth principle category).

[24] (*community*, second principle category),

[25] (*systemic and epistemic inclusion*, third principle category).

[26] A general definition for '*praxis*' for this research follows the description set forth in the 'Online Glossary' from Sindh Education Foundation: "*Praxis* is a complex activity by which individuals create culture and society, and become critically conscious human beings. Praxis comprises a cycle of action-reflection-action which is central to *liberatory* education. Characteristics of praxis include *self-determination* (as opposed to coercion), *intentionality* (as opposed to reaction), *creativity* (as opposed to homogeneity), and *rationality* (as opposed to chance)" (emphasis added by author). For further information see: (www.sef.org.pk/educatewebsite/educate2fol/glosiconedu2.asp - accessed June, 2005)

[27] Kevin Lynch, *The Image of the City*. (Cambridge, Massachusetts: MIT Press, 1960), 4-5 Introduction.

[28] Kevin Lynch, *The Image of the City*. (Cambridge, Massachusetts: MIT Press, 1960), 4-5 Introduction.

[29] Is essence, these environments can be said to comprise highest populations and concentrations of human inhabitants and their productions, the most complexity of inhabitants and the relationships and participants (stakeholders) involved, the greatest set of behavioral variants and effects, least animal or natural inhabitants, biggest cultural centers and well as melting pots, highest economic and cultural diversity in one place, most built area, most impervious cover, greatest complexity of transportation patterns, increased heat gain, most social issues, largest crime rate, biggest energy use, greatest removal of trees and vegetation, decreased health and life-expectancy, highest potential for disease, the greatest use of products produced around the world (global effect), highest potential for ecologic or economic disaster, etc..etc.

[30] See quote within this section indicating Hillier's early view on the relationship between environmental discourse and architectural education.

[31] This notion has been discussed by many philosophical positions, but finds its modern usage through the writings of Emanuel Kant (multiple texts). More recently this has been further discussed by such persons as Lackoff and Johnson (*Philosophy in the Flesh,* Berkeley, 1999) in their theories of emergence along similar lines, but elaborated within cognitive or biological studies.

[32] As we have seen in the recent effects of hurricanes and tsunamis on our urban places.

[33] This notion is discussed at length in Lefebvre's *The Production of Space,* referenced at strategic points with this research.

[34] This is similar to the reasoning of C.S. Peirce and with his arrangement of an 'architectonic of knowledge,' an understandable system of disciplines in relation to each other and the overall greater domain of knowledge. Referenced later in this research, Chapter IV.

[35] Emphasis is placed on the singular and disconnected environmental crises (fear-factor as singular knee jerk responses toward climate change, ecological disaster, etc., all insular in their views, instead of connecting issues together holistically).

[36] Siegfried Gideon. *Space, Time, and Architecture*. (Massachusetts: Cambridge, 1941&1967). Quoted by Christian Norberg-Schulz in "The New Tradition," in *Architectural Design – A New Spirit in Architecture*. (London: Academy Group, 1991).

[37] Jean-Francois Mabardi, "Teaching Architecture – Texts and Tradition," *Writings in Architectural Education.* ed. Ebbe Harder (Copenhagen: EAAE, 2002), No.15. Excerpt from his introduction to the EAAE-Prize 2001-2002 conference proceedings.

[38] See Frances Downing, on *Embodiment,* discussed later in Chapter IV.

[39] Many publications predict that the architectural profession stands to lose its place in the production/construction of society altogether. Because of its primarily aesthetics oriented epistemic, it may even be counter to the system and is more and more being pushed into subsidiary positions in the built environment. Many in the profession are already foreseeing with the complete loss of the residential industry and now the commercial and retail market is well on the same path as new legislation will be allowing pre-approved, prototype store to be built without architects playing a major role. Even the medical industry is beginning to work only with specialized medical facility designers, less the formal or traditional architectural practice. Design-build firms now engage from a primarily development and construction role, fast-tracking buildings while hiring architects in only subsidiary positions to play liaison to code and city ordinances. That leaves us with museums and civic work, which are few and far between in terms of the whole of the industry. Some reports indicate this as very small percentage of the construction industry.

[40] The profession must be able to adapt its own paradigm to ever-changing conditions, primarily social-need driven. Perhaps Maslow's 'hierarchy of needs' should be resurfaced as a basis for priorities in this case. Humankind and its vital needs have remained the same, while the top-down perspective seems to be changing as well as its emphasis in regards to other needs. Basic human needs are still the larger area of the hierarchy, but current designs are driven by the lesser, but higher orders, or by the middle zones. See also: Amos Rapoport, *Human Aspects of Urban Form: Towards a Man-environment Approach to Urban Form and Design.* Oxford: Pergamon Press, 1977.

[41] The knowledge of architecture, its *episteme*', is emerging from the dynamic relationships between a multitude of disciplinary poles inclusive of ecology, sustainability, biology, psychology, cognitive sciences, philosophy, linguistics, complexity, cultural and religious studies, social and organizational theory, critical theory and education, feminism and epistemology, information society, cybernetics and artificial intelligence, and the theories associated with the inherently systemic nature of their composites, much less to mention the traditional, foundational associations caught between the arts and engineering sciences.

[42] Fragmentation and differentialization, in and of themselves, are not necessarily negative, as having and moving between particular modes produces beneficial and interacting productions of knowledge. Between these divergences understandings occur. This spatial mode for the interplay of knowledge should be celebrated and fostered. Although these differences are already-present and are what makes the spatial interplay enriched (or even engorged) with meaning, adding more and more information and instances to the gamut increases the ontological complexity (leading to potential *entropy*). However, our inability to resolve differentiations dialogically and productively must be considered as moving away from a state of life-promoting harmony and reciprocity, it is a negative attribute. In addition, our tendencies to resolve particular and differentiated issues with universal or alienated notions (another form of fragmentation) have proved to have a negative and long-term effect. For instance, there is simply not a universal notion of sustainability. A gain for a universal notions leads to a loss of the particular. This notion is captured by such films as Reggio's *Powaqaasti*, where 'life as transformation' to a new or simply 'other' state means an inevitable loss of something else preceding it. The alternative 'becoming other,' like with that proposed by Deleuze and Guattari in *1000 Plateaus* (1987), does not entitle loss of value by means of substitution (*salva veritate*), but an increased self-as-other and through the becoming.

[43] The current modes of operation, especially within its education and practice, indicate a fragmented or otherwise flawed epistemic framework for its essential reasoning in this regard, which at the same time is traditionally, inherently part of the impetus for its future continuance. The dominant architectural paradigm indicates a lack of, or in many cases, a disregard of cross- or trans-disciplinary methodologies in regard to environmental concerns, with no easily identifiable cohesion between the constituent parts. Its issues are spread too thin with neither a singularly encompassing solidarity of views nor an integrative framework with which to transcendentally or otherwise systemically adhere the disparate, multifaceted epistemological approaches with the greater systemic domain. In addition, there is the crippling weight of the architectural tradition, which at the same time may carry potential in many of its fundamental ideals for effectively handling the future. It attempts to solve complex issues with over-generalizing concepts as represented in generally accepted forms, usually taken and copied from, but also stuck in history. The

epistemic structure retains deep cultural connotations in denotative forms, much like the bourgeois and elitist modes that Modernism originally attempted to remove. We remember our past and retain its parts in palimpsest, even those that have little or no viability or even impose a detrimental problematic in today's world.

[44] While some claim hegemonic control over others, separate and conquer, forced segregation, and keep certain knowledge from emerging or reaching fruition, future possibilities for knowledge id limited, integration with others knowledge lessened)

[45] See Ernst Boyer and Lee Mitgang, *Building Community – A New Future for Education and Practice*. Princeton: Carnegie Foundation, 1996). It is important to consider ways in which architectural thought and thus practice (thought-in-action) can more effectively and holistically deal with complex environmental concerns that will be inclusive of socio-cultural and philosophical concerns, a total inhabiting, bound in thought and practice. This notion is similar to the introduction of the famous *Brundtland Report* of the World Council) We also find this similarly in the motto for the National Architectural Accreditation Board (NAAB) requirements (although not referenced in the body of this research): "The ability to produce an architecture informed by a comprehensive program." The NAAB also places 'critical thinking' skills as a major requirement for architectural education, an idea that supports research of this type.

[46] The model indicates a lack of or an obvious neglect of a cross-disciplinary methodologies, with no easily identifiable cohesion in its constituents parts. Also, from a purely professional point of view, we have also lost ground in the market because we have not had a model to adapt to changing economic conditions.

[47] The founders of the modern paradigm recognized the systemic nature of societal structure and moved beyond the previous traditional approach which predominantly associated itself with the fine arts and its single-minded and caste-oriented agenda. Through this notion, the modernists developed a new formalized definition toward architecture, associated through the philosophic ideals of the architectonic which in itself constitutes a form of knowledge, one which is informed by the world in which it resides, while at the same time reciprocally informs and articulates perceptions, meanings, and patterns of use. Reiteration of the traditional approach only reiterates the mode of being which disconnected the creation from the life-world, thus modernity mandated a certain immediacy and simultaneity to the world-at-hand (now, *haeccity*), while at the same time re-conquering the significant, source of inherent cultural meanings. To them, our constantly emergent understanding is connected with the originative reasons to produce in the first place. The modern movement sought to produce possibilities with significant formal relationships with the complexities of emergent world and corresponding philosophical ideals, responding to and seeking a certain betterment of the world for the greater good, although today it seems that the (proponents of the) current epistemic framework for architecture does (do) not utilize these ideals to their greater potential.

[48] (like Gadamer's descriptions (from Aristotle) of *techne', the reasons to produce*)

[49] Siegfried Gideon, *Space, Time, Architecture*, p162. Coincidentally, the events about the last century also involved the emerging Modernist agenda, which is also at the root of our issues currently. To Gideon, "Some think we stand at the beginning of a great tradition. Others, seeing the disaster around them, think we are at the utmost end of an age. The evaluation of the nineteenth century [or the last century in this case] depends upon which one is [empirically and actually] right." In the rise of this new agenda, we would eventually coin it as Modernism, especially in Germany and Austria. Its roots were immanently connected to rising social and cultural concerns, a shifting political arena, changes in the means of production and global economies, and philosophical notions of phenomenology and language, and their connections in a total *life-world* (Husserl and the Viennese).

[50] *Critical Environmentalism*, as proposed in this research promotes a pluralistic world-view (though non-universalistic) similar to the pre-modern notion of the *Gesamtkunstwerk* (a 'total work of art,' after Richard Wagner), as promoted by the *Jugendstil*, Vienna *Secession*, and in other forms as in the Green City Movement, Arts and Crafts, and other modernist trends along these lines. These ideals promoted to break away from the normalizing and traditional conventions of the time and move instead toward a socio-cultural as well as natural-oriented view. To them, the cultural and natural were immanently linked,

forming our beliefs while also forming our environment. Indeed, what is needed is a new trajectory for today's Modernism, one based on its original philosophical assumptions and connections to the social realm, but one informed and reapplied to today's environmental issues. According to Franz Brentano, influential forerunner to Husserl and Heidegger, (as with architecture as a synonymous form of knowledge) philosophy goes though periods of decline between its periods of vitality. The potential for decline is present with the advent of increasing problematic issues and exponential changes in information mixed with the increased potential for abrupt failure of dependent systems. To Brentano, what will maintain itself in these periods are a strong (powerful) sense of community and spirituality and a belief in a greater good, the very essences and ideals that have always worked. We perhaps have never fully defined integrity, or its importance, as a divergent trajectory of philosophical modernity.

[51] Sustainability as a subject for architecture is also fragmented, ill-defined, and separated from key socio-environmental studies. In addition, general architecture discourse and practice still has a purely rationalized aesthetic orientation, involving 'sustainable' appliqué in lieu of true sustainable practices and environmental correspondence. If we are in a process of sustaining, what is it that we are sustaining? Is it possible we are sustaining the problem and not the solution?

[52] A prevalent mode of digital technology, this generalizing, flattening, or globalizing view can be seen as de-valuing meaning to being neutral or relativistic and thus insignificant to real life. A problem, without ontological reference to other forces, is perpetuated and enhanced to an extraordinary level of use of computers and its naturally repetitive and automated nature. Clearly we see that the un-proportional use of technology over ethics, moral disposition, and socio-cultural reasoning as problematic. This notion can be paired with Orr's education model/postmodern paradigm, that modernism carries with it its own evidence of failure.

[53] See Ernst Boyer and Lee Mitgang, *Building Community.*

[54] Our overall 'knowing,' our episteme (with respect to Foucault), is detached from the social, life-world and has proved by its own means to be inadequate in defining a total set of conditions and being continually adaptable to discursive heterogeneities while keeping certain, identifiable regularities identifiable to architectural practice. We are 'spread too thin' with little or no encompassing solidarity or integrative framework with which to transcendentally or otherwise systemically adhere our disparate, multifaceted epistemological domains and thus no 'real' connection to the greater systemic domain. We have never fully embraced, much less managed, the multiplicities of our domain in regards to real problems as a totality, and therefore to the greater domain are incoherent and confused in our mixed agenda. The episteme for architectural education has within its mode or framework of reasoning, the heart of the matter, a motive for its own destruction. This flaw stems from epistemic fallacies that first misinterpret and misuse the modern agenda, passing it into eidetic, life-less and mass-produced images. This is paired with Orr's education model/postmodern paradigm, that Modernism has all the components as evidence of failure. At the same time, the current mode prevents the modernist agenda of the 'new' and the 'social' from manifesting through current philosophies that could redirect the path of architects to play a more vital role in their society. The mere fact of the mass production of the life-world has passed from the removal of the craftsman to now the removal of the architect in general to be replaced my mere rules of operation and universal ways-of-doing, indicates as escalating systemic problem. These same approaches as paradigms prevent other newer viable forms of thinking the issues from emerging and possibly integrating with the past models. Current architectural thinking seems to be constantly caught up in-between opposing paradigms at its own epistemic detriment. The lack of moral or ethical values in current education while increasingly progressing in technology in itself is problematic. The architect must regain the position of systemic mediator and the finder or creator of ethical and aesthetic meaning (following Joseph Campbell's notion of the 'myth writer').

   In addition (following Mabarbi's quote at beginning of this section), there is the crippling weight of the architectural tradition, which at the same time may carry potential in many of its fundamental ideals for effectively handling the future. Typically architecture does little in direct and conscious relation to greater environmental domain. It attempts to solve complex issues with reductivist, abstract, or generalizing concepts and represented in generally accepted forms, usually taken and copied from, but also stuck in

history. They retain deep cultural connotations in denotative forms, driven by its connection to elitism and the upper class, or aristocracy. We remember our past and retain its parts in palimpsest.

[55] It is also important to note that the issues of environmentalism change per epoch, per each polemic or paradigmatic revolution (i.e. How early modernist initially addressed socio-environmental issues versus how 'environmental design' in 1970's saw them another way, versus then in the 1980's cultural- and linguistic-turn, etc.). We are now at a good vantage point to view them collectively and inclusively to pick the best parts out of all of them and to fuse together using our current epistemic addition of *critical environmentalism*.

[56] Architecture tends to take the path of least resistance (stays in a comfort zone) to its own set of norms or legitimization and thus protects its own somewhat theological, *procrustean* mode. It tends to not think outside of its own box of often violent (Western, Euro-centrist) conformity and socially enforced axioms. This is a mode of its own organizing that prevents it from addressing the problems that it has itself created and sustained. To paraphrase Albert Einstein's adage, that "the significant problems of today cannot be addressed by the same minds that created them."

[57] Akel Kahera, "(Re)Thinking Diversity: Resisting Absolute Knowledge," *Journal of History and Culture* 1 (2008). All forms of prejudice and exclusion are preceded and are proceeding other forms; exclusion is preceded and proceeds by exclusion.

[58] Paraphrased. See George Collins and Christina Crasemann Collins. *Camillo Sitte and the Birth of Modern City Planning*. (London: Phaidon, 1965); and Camillo Sitte, *City Planning According to Artistic Principles*. trans. George Collins and Christina Crasemann Collins. (London: Phaidon, 1965).

[59] As an example, the city of Cairo, Illinois resides at the confluence of the Ohio and Mississippi Rivers and was once an extraordinary economic center. In the early stages of America's development, it was even considered as a candidate for the United States of American national capital. From the 1970's, racial conflict and economic despair have reduced its population from roughly 26,000 inhabitants to roughly 3000 today (mostly African-American). Its once beautiful townscape and avenues filled with theaters and delta-blues venues, is now facing complete decay and impoverishment at multiple levels.

[60] One school involved in the efforts became jokingly referred to as 'school number 38.' However, they have continued their efforts long after the *en vogue* mode passed into other 'hot topics' of the day. There are only a few who have continued the dialogue and work, especially in the most-hit and least appreciated areas like Lower Ninth Ward, which received little global attention in its reconstruction efforts.

[61] Like the analogy of losing sight of the forest despite the trees, or *vice-versa*.

[62] Adapted use of the phrase from Henri Lefebvre's *"The Production of Space,"* in the chapter titled appropriately "Spatial Architectonics." The production of space and its knowledge structure (also architectural) mandates a setting situated in a multifaceted, systemic epistemology for its construction. If the structure is destroyed, the system collapses. A model for the studio as the hub for architectural learning (where they initially construct space) and its supporting framework must also correspond and reciprocate the overall systemic structure in order to take into account the truly interdisciplinary and interactive nature of the professional architect in the world. The architectural studio needs a re-contexturalized or re-orientated mode of 'being' into its setting, but still needs to retain its distinctness as a work of sublime beauty. Human creativity must be placed immanently side-by-side with a strong rationale and understanding of the natural forces of the world. In this, an imperative exists to develop a integrative, system oriented learning environment, without leaving behind significant knowledge and practices behind, rooted in the depth of historical, philosophical, and ontological bearings.

[63] Between the artist and cultural mediator (sensitive to time and place) and the scientific, technical employment of his actions in constructing society, the architect, as a central figure, must be held accountable as a mediator of a multitude of occurrences in the society served. The underlying structure (intentional reasoning) of which seems to be seriously undermined by flawed or absent epistemic reasoning, which begins at its very foundational level. The architect's role is more often being played down, losing the crucial and influential position to effect the spatial patterns of the society, which thus loses an inherit and imperative ethical structure rooted in the greater good.

[64] See Carl J. Couch and Shing-Ling Chen, "Orality, Literacy, and Social Structure." in *Communication and Social Structure*. ed. Davis R. Maines and Carl J. Couch. (Springfield: Charles C. Thomas, 1988),

155-171. This is from a statement converted to specifically apply to architects, but the authors of this article place the communicative specialist in a central position in general. The transformation of the medium (or structure) of communication in turn transforms the corresponding social structure where it resides which, in turn "transforms human consciousness."

[65] In regard to urban and community development, mediated synthesis must occur between all knowledges and modal operators formed in direct relation to environmental issues (multiple levels). This process would have to exemplify the Leibnizian concepts of "synthesis" and the "best of possible worlds," a syncretism of modal conditions in order to find the most viable solutions to complex, environmental problems (inclusive problem solving). The collective (or communal) process has to be cross-modal and adaptive, re-generatively syncretistic, never privileging any one over the others (other than the idea of mutual benevolence). In a general relation to the complexities of the world, the modal operators (directors) of a dominant episteme' cannot be necessarily bound to modal of another, but can and most often are co-substantive and referential (in essence). Once a modal is set, propositions from another are imcompossible (invalid or inferior) unless the model operator gives rise to other possibilities, as its framework substantiates the ability to adapt or change to other systems or that a common translating device (another model) can bind them into a shifting or transcendental set of conditions. In modality, a certain set of conditions is considered imcompossible to another. It may be very possible that our current set of conditions, bound by our epistemic framework for thought to occur, is incompatible (a state of dis-parity) with the systemic thought or issues of sustainability in a holistic sense.

[66] This notion also presents an argument for multi-methodological and interdisciplinary triangulation and transferability in research with performance- and evidence-based studies to accompany philosophical notions and qualitative notions for what we consider "knowledge-based architecture," but that will be another future research offshoot along these lines. This also substantiates the naturalist inquiry's argument for 'triangulation' and 'transferability' (trustworthiness) in research with performance- and evidence-based studies to accompany philosophical notions and qualitative notions and knowledge-based architecture.

[67] This also fosters an idea that the main goal of research, as with any endeavor, is 'to do no harm.' One has to understand the 'other' of which one may, even inadvertently, do harm. Critical inquiry as such is paramount.

[68] In respect and reference to Rudolf Hermann Lötze's *Metaphysics -Connexions* (1887) and his conception of *Begriff*, which means to 'grasp' or 'understand' (also to know), but this is often extended to being embraced if not celebrated as an essential part of 'being.'

[69] Since we live in a complex, globally interconnected and systemic world, an episteme has to be able to adapt its paradigm to ever-changing conditions. In order to understand this world, we need to correspond with a mode for thought that is equally systemic – in terms of ontological relationships, inter-connections, inter-dependencies, and the context for understanding. Without proposing a reductivist proposition, the episteme has to have the capacity to improve and change over time while retaining its vital values and structure that has been always associated with great accomplishments in architecture. It has to be enduring, with (ex)change and interplay as only driving constant of the ever-emergent 'new' (with respect to Siegfried Gideon). In additional and significant to the proposal, the environment and knowing has to be realized as intrinsically interconnected/interdependent. Acting within and affecting that link environment is harm to one's own way of knowing.

[70] Quoted in Diana I. Agrest, *Architecture from Without – Theoretical Framings for a Critical Practice. Cambridge:* M.I.T. Press, 1991), 44. From Alison and Peter Smithson statement of the intentions of *Team 10*. It is important to understand that these situations have to correspond holistically with the world of spatial constructions, especially with the epistemic of architectural education as part of that construction. To Agrest, creative acts in architecture as part of a greater system intrinsically establish relations between and within itself and other systems.

[71] William Hillier and Adrian Leaman. "Architecture as a Discipline," *Journal of Architectural Research* 5 (1 March 1976): 28-32.

[72] By its nature, it intrinsically cultivates critical identities associated with particular places, belief systems, and their participants, as well as their place in global or even universal concerns.

[73] Refer to the critical social theory and environmental sections, Chapters II & III, later in the research for an extended discussion and definitions of concepts within socio-environmental discourse.

[74] University of Canterbury, School of English, "Critical Theory and Cultural Studies," – Christchurch, New Zealand. From their departmental web homepage and their description of the subject. (http://www.engl.canterbury.ac.nz/courseinfo/theory.shtml - accessed June, 2005)

[75] Stuart Sim & Borin Van Loon. "Introducing Critical Theory," (United Kingdom: Icon Publishing, 2001). From Van Loon's homepage by the same name, http://borinvanloon.co.uk/loonintrocrittheory.html.

[76] Critical social theory is also often coupled with the notions of 'critical thinking' and 'critical education'. For architecture, there are strong reasons for education research of this type, although it is questionable if architectural schools formally follow critical education or social theory's basic structure. Generally, there is not enough formal education in critical theory or education in architectural schools and its constituents to justify a claim towards its incorporation.

[77] David Orr, *Ecological Literacy. Education and the Transition to a Postmodern World.* (Albany: State University of New York Press, 1992); see also David Orr, *Earth in Mind: On Education, Environment, and the Human Prospect* (1994) (quoted also by David Selby, see below).

[78] From David Selby, "Education: Towards a Quantum Model of Environmental Education." University of Toronto, Canada, *Environmental Learning and Sustainability online publications*, *Global Online Colloquium Oct. 19-30, 1998:* www. http://www.ec.gc.ca/education/documents/colloquium/selby.htm (accessed June 2003). This notion is discussed at length in the environmental chapter of this research.

[79] As mirror components within the two theoretical fields, 'embodiment' is used here as a direct part of the critical social stance toward the knowing agent, albeit also taken up in environmental philosophy as interwoven with natural human existence. 'Emplacement' is more closely attune to the environmentalist position as it discusses primarily the place of occurrence as having equal epistemic referential value.

[80] Shifts between territories (with respect to Deleuze and Guattari) as moving, differentiating scales and intensities, while also reflecting the whole like fractal or monadic systems.

[81] Alison Smithson, *Team 10 Primer.* (MIT Press; 1974), 96-105.

[82] Alberto Perez-Gomez, "Hermeneutics as Discourse in Design" in *Design Issues* 15, no. 2 (The MIT Press, Design Research, Summer, 1999), 71-79. See also McGill University, School of Architecture catalogs of faculty publications.

[83] The 'in-between' is seen here as commonness or shared associations that tie things together. It can be seen within critical social sciences' idea of the 'spatial turn' and the dynamics of interrelations.

[84] Immanent refers to as all qualities that disperse thought, the essence of something. It also is philosophically paired with *transcendence* (Kantian), wherein all essences co-exist or flow-through each other. The idea can also be found in the idea of *individuation* of Duns Scotus (1265-1308), wherein all multiplicities can be found intrinsic to singularities. The works of Deleuze and Guattari, primarily their collective work titled *1000 Plateaus* (1987), provide extension of these notions in modern terms.

[85] All the more reason to promote an associated education designed to critically enhance individuals, as proposed by such education philosophers as Paulo Friere and John Dewey. The critically aware person is empowered to change one's own learning and teaching experience, thus infectively enhancing others to the same critical awareness. In this case as well, qualitative studies of social and psychological studies are playing a role in effecting education practices. This presents a credible and vital model for architectural studies, especially when dealing with complex urban design and community planning issues.

[86] I use the term "regenerative," here with respect to Steven Moore, *Technology and Place* (discussed in more depth in Chapter IV). Here it is important to foster regenerative and creative modes in lieu of being considered problematic or as an obstacle to design.

[87] This is primarily a critical education or socially-formative issue, since all knowledge is learned socially (and acted upon socially) and is environmental in nature (again with respect to David Orr).

[88] These notions in parenthesis will be expounded in subsequent chapters in regard to these two basic conceptual positions.

[89] A similar negotiation as Heidegger's *Dasein "being there"* or *"being-in-the-world,"* but placed within multi-level, discursive environmental issues and associated practices.

[90] Reminiscent of Davis Orr's idea that all disciplinary positions are essentially environmental, but also that they are agential, involving human modes of understanding and social praxis.

[91] All human interventions comprise creative endeavors which are never neutral, but engorged with history, intentions, and meanings. This includes also what might be considered merely interpretation or perception, which in essence frames the world in particular ways by their inhabitation or meaning formation. See also, Pierre Bourdieu and his discussion of 'habitus' later within this research.

[92] Refer to Chapter IV of this research, compiling the *Critical Environmentalist* position.

[93] Inclusive of spiritual or religious meanings or values.

[94] Carl R. Hausman, *Charles S. Peirce's Evolutionary Philosophy*. (Cambridge: Cambridge University Press Syndicate, 1993).

[95] The case studies referenced in this research occur primarily in Germany and Switzerland. See below on supporting case-studies and methodologies, Chapters V.

[96] With respect to Kevin Lynch, *The Image of the City,* (1960).

[97] The *Critical Environmentalist* position finds its best 'fit' in the most complicated of settings. The more stakeholders drawn into the picture, the richer the set of relations and the potential for emergent meaning becomes. Architecture is viewed here as a vital meditative and reflexive practice (with respect again to Peirce's "Architectonic of Knowledge," intertwined with communal benevolence) in regards to its distinct connections points (the points that substantiate its own identity) within the grander picture of the *Critical Environmental* framework. And thus, the ideas presented are best engaged in terms of urban and community settings, as architecture's most complex endeavor within the greatest set of intersections (and repeated dichotomies) between individual concerns or desires, multiple social structures and crises, epistemic conditions and discourses, communities of inquiry, multifaceted environmental problems, multiple disciplines, local and global concerns, cultural versus natural, etc.

[98] The process involves a de-centering of current divergent views (with respect to J. Habermas) concerning architectural, social, and environmental modes and a critical re-centering (convergence of views) on the complex interaction between varying views that can significantly inform each. But in this case, we are primarily concerned with the impact of this convergence on architectural discourse.

[99] Robert Mugerauer, *Interpreting Environments – Tradition, Deconstruction, Hermeneutics.* (Austin: University of Texas Press, 1995), Introduction xv – xlvi.

[100] Though comparative analysis and synthesis, it seeks common categorical positions and shared impetuses or reasoning between the various disciplinary facets to reveal connections within those frameworks influencing architectural thinking and action. In order for architectural education to function more as a holistically with environmental concerns, common threads must be first identified within the existing framework as a way of integrating those issues that have previously ambiguous, peripheral, or undefined in regards to their applicability. It is important to know how this framework of knowledge is being transmitted: its sources, its practice or active use, and interactions transcendental to the field of architecture and to other fields. It also hopes to establish a common or shared need in a collective community of architects, to transcend eventually and reciprocally to the profession and to the community of which it serves.

[101] Adapted from a conversation with David Wang, author of *Architectural Research Methods* (2002), during a visit to Southern Illinois University, June 2005.

[102] What is a critical theory applicable to environmental issues in architectural education, what is predominating in current environmental research in regards to architectural education, and what has been critical to architectural education in regards to the former? In this, it seeks points upon which will substantiate the theoretical position that will not only place the architectural profession within the greater domain, but establish a strong identity as well.

[103] These include the model *ETH Zurich-Nord* Developments (Roland Scholz and Olaf Tietje, *Eidgenössische Technische Hochschule ETH* Zürich/Basil also known as the *Swiss Federal Institute of Technology*) and two models in Germany (Freiburg im Breisgau and Mannheim), Chapter V.

[104] The research seeks mutuality of meaning ('domain general', applied in complex social settings) across disciplines ('domain specific' modes that may be interchangeable) that use critical inquiry as part of the formative nature of design.

[105] Linda Groat and David Wang,. *Architectural Research Methods*. (New York : John Wiley and Sons, 2002). The goal is to establish the 'fitness' of a proposed ideology within current trends, events, and interdependent modes of critical social thought in regard to the environment. The research intends to illuminate "deep" underlying issues relating to the perception and application of our built world (primarily in urban and community design settings) and our physical or even metaphysical 'place' within it. To Groat and Wang, this is founded with a Socratic notion of *logical argumentation* that promotes "making sense (or understanding) some aspect of something in the cosmos through a rational systematic manner", grouping and categorizing of "seemingly disparate groups or factors of phenomenon" that "can be interconnected in an explanatory system". To them, "once the system is framed, it gives clarity to those disparate elements under one general heading," in this case the proposed theoretical framework of *Critical Environmentalism*. To Socrates, the mode was epistemic in nature and the process was "to frame a logical system that can explain an instance of knowledge" or a grouping of knowledge types so they may be turned into usable, pragmatic and instrumental tools or devices for thought (*phronesis* with value added). G&W state that the key attributes of architectural literature in this regard include: giving logical order to a previously disparate set of factors (concepts, ideals); (re)framing existing logical conceptual systems that can play a role, revealing connections and interconnects (architectonically) previously unknown or unappreciated factors in relevant ways; to draw logical coherence from the cultural world views they are (already) embedded (or embodied, emplaced) within the system (e.g. architectural views that reciprocally correlate to issues of critical inquiry and environmentalism), and capturing a world-view (as a summary of its cultural 'logic' relative to design action or thought-in-action) and distilling it into a logical argument with theoretical clarity and rhetorical value. These systems use discursive language to anchor the validity of their claims to some larger transcendental venue (e.g. nature/environment and moral or ethical constructs, *a priori* reasons, social structure, belief systems, and etc.) by systematic analysis and explanation. The result is successful if by widespread acceptance or within a certain intellectual culture (or dialogic authority drawn from communicative, hermeneutic exchange), either as a normative basis for design or as a way of understanding or revealing some common aspect of human interaction with the environment-at-large. Groat and Wang's Figure 11.6 (p 307) describes this approach under the general heading of Cultural/Discursive types as "justifications for architectural action by appeal to larger contexts (nature, history, culture, the machine, etc). In this case, discursive means tend to draw from numerous, disparate sources along a single or along parallel lines of social and cultural inquiry in regards to the environment. Like the process of architecture or urban design, the assembly can be constructed from a sort of '*bricolage*' approach – that is, picking up parts or material from what is readily-at-hand. The component-driven framework established in this initial work will aid to develop a foundational base for the comparative coding and analysis of categorical, component parts affecting the framework of knowledge that informs architecturally-based urban and community developments. The goal is to establish foundational, epistemic reasoning for certain methodological models or theoretical positions in order to comparatively analyze within the context of the proposed framework. In this part, the research hopes also to identify successful positions that are already in-place within architectural discourse as foundational and developmental points on which to critically establish and connect environmentally oriented discourse. What is significantly important to architectural discourse in this light, with its eventual relationship to the life-world as a total system, that we continually learn (to learn), on a basis for how our relationships are systemically organized and reinforced and how we respond in a meaningful and generatively productive way. If architecture embodies or represents our collective and communal society in some way, what are we (re)presenting when we articulate and (re)produce our version of how the life-space should be made manifest? The interest in the research is exploration and discovery of possible solutions, agreed upon in certain communities, but not before considered as a collective basis for architectural discourse.

[106] Like pulling a hook through a pond filled with everything, or an adhesive mechanism drawn through dense arrays of subjects, multiple discursive subjects can be inter-connected along shared lines.

[107]The research assumes a modified Hermeneutic-Constructivist position that acknowledges the existence of an objective, external physical world primarily interpreted and translated through our experiential interaction with it rationally, culturally, and perceptually. The structure of reality is filtered through the

universal, categorical structures of the human reason (Kant), mediated (substituted) by our 'use' of languages to 'grasp' it and articulate it. The use of the word 'grasp' is used in various places of the research similarly to how Frege or Lötze (philosophy of language) referred to it. The access or 'grasping' of reality happens through interpretive iterations, both experiences through sensory involvement and by the intellectual agency experiencing the world, thus developing authority. More experience and practice leads to more authority. Also to Husserl and Heidegger, as with most philosophers in the hermeneutic tradition, textuality and language still play a key role in the 'life-world'.

[108]The underlying this is simply the goal of checking the mode of systemic and discursive thinking, as it is current effecting architectural education especially in regards to interdisciplinary and diversity practices.

[109] Quoted and referred to from Ricoeur's *Universal Civilization* (1961), in Frampton's "Critical Regionalism: Modern Architecture and Cultural Identity," in *Modern Architecture* (London: Thames&Hudson, 1992), 314-327.

[110] From David Erlandson *et al*., *Doing Naturalistic Inquiry – A Guide to Methods.* (Newbury Park, CA: Sage Publications, 1993); and Egon G. Guba and Yvonna S. Lincoln, *Fourth Generation Evaluation.* (Newbury Park, CA: Sage Publications, 1989). "Fourth-generation evaluators are relativists, and their methodology is, essentially, qualitative."

[111] The content of this research is categorically sequenced in three major parts and is laid out in a logical order. It starts with the foundations of epistemological research in general critical social theory and how it relates to the current environmental discourse. Critical education and participatory action as fundamental components of critical environmentalism are common themes throughout the various discourses. Parts of the research will analyze and compare contributions of various architectural schools of thought (paradigms) that directly impact the epistemic framework today in this regard. Lastly, the compilation intends to indicate future applications that progress architectural thinking into the next millennium in a new, productive and corresponding manner.

[112] The research is concerned with revealing the knowledge foundationally underlying as well as currently emerging in the epistemic framework of architectural discourse that relates to critical approaches to environmentalism. Various links with architectural discourse has to be established as a way to graft a substantiating critical–environmental epistemology that will foster viable working models for critical environmentalism in architectural education.

[113] The literature review will entail a detailed overview of the epistemological model as it interrelates critical social theory, environmentalism, and architectural/environmental design. This literature will be mainly from mainstream architectural, critical theory and, environmental sources. Along with the above study, an extensive literature review will be conducted on recent findings in environmental research and education, focusing on its notions of critical theory and the interdependencies between systems. As a way of distilling the ideals for critical environmentalism, the literature review incorporates broad-based inter- or even trans-disciplinary inquiry, taking into account common threads and mutual impetuses in regards to environmental issues. The review will build a synthesis of the concepts supportive of the proposed theoretical framework, but also intends to build a baseline for the dialogic inquiry and raise questions and a possible mode(s) of application.

[114] This can include formal interviews, email or internet-based conversations, open-forum or conference presentations and discussions, phone calls, classroom settings, or informally arranged discussions in academic settings. Most interviews in this research are informal conversations about supportive and/or comparable conceptual positions and noted as such throughout the text.

[115] As outlined in Guba and Lincoln's *Fourth Generation,* (1989). See diagram (p.152) and text in this regard within their Chapter V (pp. 142-155); See also Erlandson *et al*, *Doing Naturalistic Research*, (1993), 124. Wherein it is stated "…which is constructivist in nature."

[116] Ibid. Erlandson *et al, Doing Naturalistic Research*, (1993).

[117] Ibid. Erlandson *et al*, (1993); and Guba and Lincoln, (1989).

[118] Ibid. Erlandson, *et al*, 1993. Like the process in urban design scenario, the research reflects the same method that also "*takes a constructivist view toward hermeneutic inquiry that allows knowledge bases to dialectically emerge from the cross-pollination of knowledge. The focus and content of the research methods is allowed to change or emerge in the process of discovery (learning), rather than a set of*

predetermined (absolute) outcomes, a flaw of many reductivist approaches. This method intrinsically promotes a dialogic between a multitude of experiences and knowledge bases in order to interpretively generate a way of seeing the total picture. Dialogical methods are "built on the idea that education is a continuum of dialogs between participants rather than monological" (the singular, reductivist approach) that "takes part in the collective enterprise of learning." Transactions between participants (not just observers) are conducted on the basis of exchange of experience, knowledge, and ideas between informed individuals on particular facets of the overall subject matter within epistemologically-based design processes. The meeting process in the event-space of dialog sets stages for relationships to be reflected and then put into action (movement) through communicative processes to evaluate and assign values to unique circumstances in their milieu."

[119] It also promotes a 'nomothetic' approach as "relating to the study or discovery of general scientific laws" like in motivations of a particular social group: "the study of a group of individuals [and their epistemological/ ideological positions], as an attempt to draw general conclusions." Through synthesis of views, the research hopes to build a 'normative' analysis, leading to possible improvements to a system in regards to the *critical environmentalist* paradigm

[120] The sampling of subjects depends upon whom the collected community accepts as distinctly and positively affecting the discourse as it relates directly to the material. Persons are picked because of their influence on the subjects and/or authoritative positions.

[121] The idea of 'collateral' is intentionally expressed here to indicate running 'side-by-side' and being set aside like a fund to cover a debt. Architectural thought owes much to the proposed fields of inquiry for this research and need to foster accountability within the coupled scope.

[122] The environment itself must be viewed as the synthesizing, ecumenical catalyst between modes-of-thought within a total framework for reconciling differences into common concerns and collective solutions. Indicative of critical thought, an ecological insight for environmental and architectural education is that the knower cannot be separated from the known for the process of knowing requires totality (non-dualistic epistemology, like Hegel's subject-knowing object duality). They co-constitute each other and influence the others' knowledge, and identity, and thus the meaning of the experience of being (in place). Thought (knowledge) is structurally coupled (or commingled) with its environment. This notion 'places' the knower in a participatory (phenomenological/hermeneutic-constructivist), ecological and mutually adaptive relationship with the known (or knowable). Ecological, as with environmental, learning refers to the web of ontological relationships in which an organism is embedded and/or emplaced. It points at the 'nested' nature of all living organisms, beyond a simplistic or reductivist dualistic, separated misunderstanding of the environment. It is inclusive of both the critically embodied self as an intentional, interacting, and intellectual agent and the space of 'emplacement.' To many, it is also a critical part of belief systems and religious practices. This fosters viewing the environment as not the limiting factors or conditions for creative activity, but the place where creative endeavors flourish best and operate to their greatest potential within the realm of problems.

[123] Various institutions can identify multiple connective components in their own community that might aid in interdisciplinary knowledge interaction. Various parts have shared structure with which to make connections, which can be identified in order to strategically redesign accordingly or reinvest resources for the most productive and reciprocally enhancing interaction without detriment to their individuated knowledge structure. The study hopes to generate or recommend ways of looking at an epistemic framework that can more ideally adapt architectural education to the changing needs of society than we have currently. As part of the initial argumentation, it promotes a synthesis of academic approaches and knowledge bases that could strengthen the central role of architects in the immanently interactive, social environment.

CHAPTER II

[124] Edouard le Roy. *A New Philosophy: Henri Bergson.* (Boston: IndyPublish, 1912).

[125] Emmanuel (Immanuel) Kant *Critique of Pure Reason.* tran. F. Max Mueller. (New York: MacMillan, 1896, (1781)). General definitions describe this simply as 'the systematic arrangement of knowledge'.

[126] Paraphrased and compiled from multiple sources. In this, we state a structure for the discourse. Conscious awareness requires a critically embodied, intentional agent. Axiological (values) and hermeneutic positions require an evaluation of fundamental Epistemology and thought-in-context. In this case, the context requires a discussion of the environmental subject and its discourse as its 'grounding,' as well as how it is manifested in its physical forms (in all scales).

[127] Emmanuel Kant, *Critique of Pure Reason* (F. Max Mueller).

[128] Ibid.; See also: William Reese, *Dictionary of Philosophy and Religion –Eastern and Western Thought.* New York: Humanity, 1999).

[129] Milton Hunnex, *Chronological Charts of Philosophies and Philosophers.* (Grand Rapids: Zondervan, 1986). This book presents a good overview of philosophical concepts and timelines.

[130] William Reese, *Dictionary of Philosophy and Religion* (1999).

[131] Martin Heidegger, *Being and Knowing.* trans. by John Macquarrie and Edward Robinson (New York: Harper & Row, 1962).

[132] From a personal discussion with Dr. Walter Wendler, a respected architect, university educator, and administrator, on the subject of architectural education and environmental issues (July, 2008).

[133] Manual Castells, "European cities, the Information Society, and the Global Community" from *Journal of Economic and Social Geography* (1993) in *The City Reader* (Third Edition). ed. Richard T. LeGates and Frederick Stout. (London: Routledge, 2003).

[134] Bourdieu, *Pascalian Meditations.*

[135] Milton Hunnex, *Chronological and Thematic Charts of Philosophies and Philosophers.* Grand Rapids: Zondervan, 1986.

[136] Michel Foucault, *Archaeology of Knowledge.* trans. A.M. Sheridan Smith (New York: Pantheon Books, 1972).

[137] To begin discussion of the criticality of concern for environment, one must establish the 'terms' or condition of epistemic reference- that is, to what one is referring. In this case, the terms of epistemic reference are the socio-environment and our composite understanding of it.

[138] Fredric Jameson. *The Prison-House of Language: A Critical Account of Structuralism and Russian Formalism* (London: Oxford University Press, 1972).

[139] Michael Stubbs, *Discourse Analysis: The Sociolinguistic Analysis of Natural Language.* (Oxford: Basil Blackwell, 1983).

[140] Bill, Ashcroft, Gareth Griffiths and Helen Tiffin, eds. *Key Concepts In Post-Colonial Studies.* (New York: Routledge, 1998).

[141] Ibid.

[142] Ibid.

[143] Ibid.

[144] Ibid. See also source: Michel Foucault, *Archaeology of Knowledge.* (Multiple references in this research).

[145] Ibid. Ashcroft, et al., *Key Concepts In Post-Colonial Studies.*

[146] With respect to Ludwig Wittgenstein's notion of "its meaning is its use," from his *Philosophical Investigations* , (trans. by G.E.M. Anscombe (Oxford, Basil Blackwell, 1963), also referenced in various places throughout this research document.

[147] Michael Stubbs, *Discourse Analysis: The Sociolinguistic Analysis of Natural Language.*

[148] Louis de Saussure, "Pragmatic Issues in Discourse Analysis." *Critical Approaches to Discourse Analysis Across Disciplines* (*CDAAD)* 1, Issue 1 (February, 2007), 179-195

[149] Ashcroft, *et al.,* *Key Concepts In Post-Colonial Studies.* See also source Michel Foucault, *Archeology of Knowledge.*

[150] Maggie Humm, *The Dictionary of Feminist Theory.* (Columbus: Ohio State UP, 1999). Pollock's research interests primarily include modern architecture and art and their relation to social issues.

[151] Ibid. This is reminiscent of Pierre Bourdieu's statement toward epistemological framework as conditions for knowing and transforming our *habitus* as mentioned in various places in this research.

[152] This concept is reminiscent of Michel Foucault's 'panoptic' discourse.

[153] Maggie Humm, *The Dictionary of Feminist Theory.*

[154] Ibid.

[155] Ashcroft, *et al.*, *Key Concepts In Post-Colonial Studies.*

[156] L. Bernhagen, S. Straub, *et al,*. *Higher Education Coordinating Board – English College Readiness Definitions Preliminary.* (Spokane: Gonzaga University, 2007).

[157] Geneva Gay, *Culturally Responsive Teaching: Theory, Research, & Practice* (New York: Teachers College Press, 2000).

[158] Ashcroft, *et al.*, *Key Concepts In Post-Colonial Studies.*

[159] Ibid. They bring to light that: "All these statements and all that can be included within the discourse thus become protected by the assertion of 'truth.' For post-colonial theory, the 'will to truth' is linked to the 'will to power' in the same way that power and knowledge are linked. The will of European [Western colonial thinking] nations to exercise dominant control over the world, which led to the growth of empires, was accompanied by the capacity to confirm European notions of utility, rationality, discipline, as truth".

[160] Ibid. Re: Edward Said, *Orientalism.* New York: Pantheon, 1978.

[161] See Lynn White's *Roots of our Ecological Crisis* (1967) for further discussion on this issue, although not part of this formal research document.

[162] Ashcroft, *et al.*, *Key Concepts In Post-Colonial Studies.* Refer to the previous discussion of episteme' and pair as an argument for this research.

[163] Ibid. See also basic readings on Critical Theory from: Douglas Kellner and Herbert Marcuse, *Towards a Critical Theory of Society.*(London: Routledge, 2001) and Douglas Kellner, *Critical Theory, Marxism, and Modernity*, (Baltimore: Johns Hopkins University, 1989). One of the biggest rifts in architectural thinking are the ones between social and cultural concerns and raw technological advances. Supporting this view, critical philosophers like Theodore Adorno (as with others from the Frankfurt critical school) as perhaps an ethical argument, speak of technological advances and an over-rationalization that separates their intrinsic operative modes from the *life-space* and the *human condition* (similarly as Hanna Arendt also remarks). This ideal is rooted in the ideal that reality is historically constructed/constituted. For instance, our post-Fordist society (automobile driven) as a paradigmatic shift represents a rift between cultural, organizational, and technological modes, with increasing loss in the former cultural and societal realms. Technology has emerged as a dominant hegemony in itself, is driven by economy and power. As a repetitive addiction, it sets the course of which we will inevitably fall back, requiring that we use technology to 'fix' technologically driven problems. This often has the effect of repeated overriding or disempowering of simple, basic societal needs and its socio-cultural technologies as inferior. Physical technology un-tethered to these basic needs has no check to its validity in society other than through its own paradigm, which is generally not taken as possibly flawed or driven by the need to remain dominant. How can one check a system by its own mechanism and its own ethical assumptions, which says that a technological success is one of technological performance in relation to other technological performances? This generally goes unchecked by any other means, especially if that system has not the components (as in ethical technologies) to do so. To Deleuze however, the 'social' is always the precursor to the technological advances and cannot be pre-supposed otherwise. It becomes then a question again of the discourse available that could indicate to its participants a condition otherwise.

[164] Michel Foucault, *Archaeology of Knowledge.*

[165] ESRC Economic & Social research Council (Stef Stembrouck). *Assessment and Development of New Methods for the Analysis of Media Content.* (University of Ghent, Department of Social Science: Loughborough University Online, 2007)

[166] Ashcroft, *et al.*, *Key Concepts In Post-Colonial Studies.* See also: David Spurr, *The Rhetoric of Empire: Colonial discourse in Journalism, Travel Writing, and the Imperial Administration.* (Durham NC: Duke University Press, 1993), 16.

[167] Carolyn Merchant Ecology: *Key concepts in Critical Theory* (New York:Humanity Press, 1999). For more in this area, see also discussions within this research (Chapters III & IV) referencing Lorraine Code and her writings *Epistemic Responsibility* and *What She Can Know.*

[168] A discussion on global effect also taken up in Kenneth Frampton's *Critical Regionalism* in what he refers to as a 'scenographic view.' This is also reminiscent of Henri Lefebvre's notion that this negative relation can described as a sort of mutual suicide. This relation is also having a permeating and negative

effect on our urban settings, wherein loss of local value and meaning is overcome by global, generic consumerism.

[169] Joannah Caborn, "On the Methodology of Dispositive Analysis." *Critical Approaches to Discourse Analysis Across Disciplines* (*CDAAD)* 1, Issue 1 (February 2007), 112-123. In this text, Caborn is referring multiple texts of Foucault leading toward his dispositive method. For more, see also his source materials on the subject: Michel Foucault, M. "Le jeu de Michel Foucault," in D. Defert and F. Ewald (eds.), *Dits et écrits. Volume 3 (1976-1979).* (Paris: Gallimard, 1994), 298-329; Michel Foucault, *Dispositive der Macht. Über Sexualität, Wissen und Wahrheit* (Berlin: Merve, 1978); Michel Foucault, *The Archaeology of Knowledge* (New York: Pantheon, 1982).

[170] Ibid.

[171] Ibid.

[172] Ibid.

[173] Ibid.

[174] Ibid.

[175] From Karl Marx's "Eleven Theses on Feuerbach, " published in varying forms online and in book form. The original was published only after Marx's death by Engels. This quote can be found in the online version, *Marx-Engel Internet Archive.*
(http://www.marxists.org/archive/marx/works/1845/theses/index.htm - accessed June 2005).

[176] Berte van Wyk, "Exploring the Notion Of Educational Transformation:
In Search of Constitutive Meanings". in *International Journal of Special Education* 18, no. 2 (2003, (University of Stellenbosch) Here, van Wyk is referring to his source in: Craig Calhoun, *Critical Social theory. Culture, History, and the Challenge of Difference. (*Cambridge, MA: Blackwell, 1995), 11.

[177] The term *critical theory* is connected primarily with the Frankfurt School (its main proponents include the social theorists, Horkheimer, Marcuse, Adorno, and Habermas. The position promoted in this research most closely align and refer to Jürgen Habermas and his theories of applicability and 'communicative action,' Discussed in more detail later in this research section.

[178] Brian Fay, *Critical Social Science – Liberation and its Limits*. (Ithaca, New York:
Cornell University Press, 1987), 7; See also reviews of this source by Stephen K. White in *Political Theory* 16, no. 3, Sage Publications (August, 1988), 515-518; and Timothy W. Luke in *The American Journal of Sociology* 94, no. 6 (May, 1989), The University of Chicago Press, 1459-1461.

[179] Ibid.

[180] Reordered from Fay's original order of components to correspond to this research and its categorical positions and subject layout.

[181] Ibid. Fay, *Critical Social Science – Liberation and its Limits*.

[182] Ibid, 27-29.

[183] Ibid.

[184] Ibid.

[185] This notion can also be extended to a technological crisis. We face both the hegemony of privileged technological means over other means, albeit material (industrial, economical, informational, digital, *et al* or over individual, social, intellectual, environmental, or cultural, set as secondary, inferior, or subservient. This research fosters the idea that we may be over emphasizing technology itself as a form of dominance, disempowering the *social* and the *self* in its wake. In the case of this research, the reference to 'technologies' is often used broadly to include the full spectrum of its manifestations. There are many types of technologies that go beyond its general descriptions: material, intellectual, social, cultural, etc. It is also important to note that the research does not view technologies as not necessarily bound to time for their validity- that is, 'new' is not more technological than 'old'.

[186] Ibid. Fay, *Critical Social Science – Liberation and its Limits.*

[187] Regardless of stylist concerns, modernist or classical, the' traditional modes' in architecture are primarily discipline centered and aesthetically driven in such a way as to counter environmental systems and natural processes which could otherwise be considered a greater source of aesthetic conceptualization.

[188] van Wyk,. "Exploring the Notion Of Educational Transformation:"; See also Fay, *Critical Social Science – Liberation and its Limits.*

[189] Peter Nielsen has referred to this in a theory for *critical realism* known as an "*embodied intentional agency,*" the critically aware self necessary for such a translation of reality to occur.

[190] The foundational principals of Critical Social Theory and its applications, what is now termed Critical Education, begin with the subjective basis of moral of ethical decisions, thus an emphasis on the critically aware and reflective self (as embodied intentional agent) is a critical starting point for these issues. The main proponents of critical theory as it relates to education and societal issues are thinking include: William Perry, John Dewey, Jürgen Habermas, Hans-Georg Gadamer, Paulo Frieir, and later alternative approaches (e.g. gender studies, diversity issues, class issues, etc.) to critical education. One such later proponent of such inquiry and critique is Lorraine Code who discusses Feminist /Marxist epistemology to discuss the notion of 'care,' in regards to personal epistemological issues, but extends this notion to social educational and even environmental concerns, stressing that the same inherent structural and epistemological issues may be at the heart of the full spectrum of concerns. From feminist epistemology, to promote a sensitive and thoughtful understanding or 'caring' for the world as 'self-as-other' (Lorraine Code's *second-self* based in Aristotle's friendship model). Not just *being-in-the-world* (with respect to Heidegger's *Dasein*), but in our doing so (inhabiting), our being also enables the 'other' to participate synonymously, thus substantiating our own being through the other's becoming. Consequent work by many environmental researchers have extended this concept to cultural and organizational issues.

In architectural research, the work of Ahrentzen and Groat (feminist epistemology) discuss the social sciences in relation to architectural profession. Donald Schon speaks of the strengths and weaknesses of an education of reflective practice as it relates to a studio-centered, problem-solving educative practice. Models which promote reflective practice and thought in action directly connected to problem solving and the context of the problem, thus connecting a reflective and critically self to the process of design. For more in this subject, see reference material in: Donald Schön, *The Reflective Turn – Case Studies In and On Educative Practice.* (New York: Teacher's College,, 1985); Donal Schön. *The Reflective Practitioner. H*ow - *Professionals Think in Action.* (New York: Basic Books, 1983); Donald Schön, *The Design Studio. An Exploration of its Traditions & Potential.* (London: RIBA, 1985).

[191] As a fundamental source, see also: Paulo Freier, *Education for Critical Consciousness.* (New York: Continuum Publishing, 1973).

[192] van Wyk, "Exploring the Notion Of Educational Transformation:"; Referring to L. Harvey and P. T. Knight, *Transforming Higher Education*. (Buckingham: Open University Press, 1996), 11-12.

[193] See further discussion in this research on Lorraine Code and her notion of *Epistemic Responsibility*.

[194] Rooted in the Critical Social Theorist stance primarily fostered by the Frankfurt School: Horkheimer, Marcuse, Adorno, and Habermas, *et al.*

[195] van Wyk, "Exploring the Notion Of Educational Transformation:"; According to van Wyk, (referring to Van der Merwe (2000:82)) follows the same argument when he says: "*Transformation requires a paradigm shift, the abandoning of old ways of knowing and doing and the adoption of a new, broader definition of reality.*" van Wyk proceeds in describing: "*Transformation is meant to be a fundamental and deep-rooted restructuring process ultimately directed at national development. It means a substantial and meaningful degree of popular participation in key initiatives. This means empowering the disempowered, i.e. the reorganization of power relations which focuses on common interest rather than special interest.*"

[196] Fay, *Critical Social Science – Liberation and its Limits.*

[197] van Wyk, "Exploring the Notion Of Educational Transformation:"; Referring to Duderstadt, J. *A University for the 21st Century*. (Ann Arbor: The University of Michigan Press, 2000), 269-70. Duderstadt identified four conditions as critical for educational transformation that include: "*equity and redress, critical inquiry, communicative praxis and nation-building.*"

[198] For more see: Ibn Muhammed Khaldun, *The Muqaddimah – An Introducvtion to History*. trans. and intro. Franz Rosenthal. (Princeton: Princeton University Press, 1969). In addition to his famous *Introduction to Sociology* (ca. 1377), Khaldun here discusses an overview human civilization and its earthy bounds, linking issues of physical place and climate with human development and social patterns.

[199] Muhsin Madhi, *Ibn Khaldun's Philosophy of History* (Chicago: Chicago University, 1964), 184-194.

[200] Craig Anz and Akel Kahera, "The Life and Death of the Post-war Islamic City - *Critical Environmentalism* and the Practice of Re-construction," Paper presented at InterSymp 2006 - The International Institute for Advanced Studies (IIAS) in Systems Research and Cybernetics – 2nd International Symposium on Urban Revitalization and Social Sustainability, Baden-Baden (2006, August); See also: Craig Anz and Akel Kahera, "*Critical Environmentalism* and the Practice of Re-construction." Paper presented at Computing in Architectural Design: Re-Thinking the Discourse –Arab Society for Computer Aided Architectural Design (ASCAAD), School of Architecture and Design, American University of Sharjah, United Arab Emirates (2006, April).

[201] N. Kojiro, "Ibn Khaldün's Image of City," *Proceedings of International Conference on Urbanism in Islam*, ed. Y. Takeshi (The Middle Eastern Culture Center-University of Tokyo, 1989), 301-19.

[202] Madhi, *Ibn Khaldun's Philosophy of History*, 184-194. Necessities, as in basic human relations and mutual survival. This also reiterates the basic layout of Malsow's triangle of needs.

[203] Ibid.

[204] (Similar to Karl Marx's concept of 'new order')

[205] Kojiro, "Ibn Khaldün's Image of City," 301-19.

[206] Ibid. Craig Anz and Akel Kahera, "The Life and Death of the Post-war Islamic City - *Critical Environmentalism* and the Practice of Re-construction."

[207] William K Carroll, *Critical Strategies for Social Research*. (Toronto, ON: Canadian Scholars' Press Inc. 2004).

[208] Ibid.

[209] Ibid.

[210] Ibid.

[211] Ibid.

[212] Ibid.

[213] Karl Marx - *Theses on Feurbach, 1945* (Marx-Engel's Collection).

[214] Fay, *Critical Social Science – Liberation and its Limits*, p39.

[215] R. Roderick, *Habermas and the Foundations of Critical Theory*. (Hampshire and London: MacMillan Publishers Ltd.,1986), 57.

[216] From James Agee and Walker Evans, *Let Us Now Praise Famous Men* (Boston: Houghton Mifflin, 1939. Dr. David Erlandson introduced this book to me. I think it says a lot about my point of view in research; that everything that is holy and that everything that is vital to a context at some level. Nothing should be taken for granted, descriptions of circumstances are inevitably "thick" and should never be avoided by reductionist endeavors. Real contexts consist of real things and real people engaged in real events. Events (as part of learning) do not occur in a vacuum and thus neither does language that we use to engage it in context, as Ludwig Wittgenstein says, "*Words have meaning only in the stream of life*." No matter how small, everything that is describable and requires language to do so. But everything that is (relative in space) is used to piece together our language, and thus reciprocal to our understanding. To Hermann Loetze, "*that we find all other relations, in themselves not the spatial kind, expressed in language by designations borrowed from space*, " we pick our parts for our language out of the *life-place* we embody. We, in turn, put it back into being through communicative (useful) action. In this reciprocal relation, I believe and as intrinsic to the rest of this document, the use of language as part of the descriptive process always intrinsically carries an ethical imperative as well.

[217] Quoted and referred to from Paul Ricoeur's *Universal Civilization and National Cultures*, 1961, in Kenneth Frampton's "Critical Regionalism: Modern Architecture and Cultural Identity" in *Modern Architecture* (New York: Thames and Hudson, 1992), 314-327.

[218] Alice Walker, *In Search of Our Mothers' Garden*. (New York: Harcourt-Brace-Janovich, 1983), 49.

[219] Robert Mugerauer, *Interpretations on Behalf of Place: Environmental Displacements and Alternative Responses* (Albany, NY: State University of New York Press. 1994). From the Greek philosophers, hermeneutics basically means "to interpret or explain," the science and methodology of interpretation. It is also paired historically with the notion of 'exegesis,' the rigorous distillation of ideas or elements into fundamental universal principals/categories/taxonomies that guide particular instances.

[220] In *Knowledge and Human Interest*, J. Habermas refers to C.S. Peirce's logic of (social) inquiry as the primary mode, because ways of communicating often involve talking through understood and contextually moderated units or categorical positions (universals), instead of separating as a singular or unique voice.

[221] Hans-Georg Gadamer says that one can never remove their position of bias or intention. Diversity (or divergence) is simply a point of bias or difference, and once this point is identified can it be moderated. With Gadamer, no stakeholder position can ever leave behind their biases, but conscious awareness and acknowledgement can lead to the possibility of mediation between views. For source material see: Hans-Georg Gadamer, *Truth and Method* (2nd edition) trans. Rev. Joel Weinsheimer and Donald G. Marshall (New York: Crossroad, 1989/1993).

[222] However, discourses intrinsically 'borrow' and 'learn' from each other and act like a discursive, co-effective network with each other, but not always interpreted or mediated to current conditions in the same way as originally intended. This natural cross-pollination and dispersion acts as a sort of systemic checking. Thus, if left to natural forces may in effect act more in an environmental way than otherwise forced to do so.

[223] Paul Bauschatz, *The Well and the Tree – World and Time in Germanic Culture.* (Amherst: University of Massachusetts,1982), xi. The reference here is using a point-of -view used in anthropological and cultural studies as also a model to guide this study as also considered in similar light.

[224] Ibid.

[225] For additional research along this line, refer to Guba and Lincoln's *Fourth Generation* on qualitative research and analysis. They provide useful diagrams of the hermeneutic circle as it relates to validation.

[226] Gadamer, *Truth and Method*. Dynamic interplay occurs between multiple subject, all experiencing and contributing to the construction of knowledge.

[227] Ibid. Gadamer, *Truth and Method*. For instance, understanding is the realization of language in communal use as the criteria for the "possibility of thought," thus the use of knowledge, a notion also supported by the linguistic and ethically oriented philosophical positions of Ludwig Wittgenstein in his *Philosophical Investigation*s and *Culture and Value*. As discussed earlier in discourse analysis, the textual includes any cultural artifact capable of carrying or transferring knowledge.

[228] Richard E. Palmer, "Gadamer's Recent Work on Language and Philosophy: On 'Zur Phänomenolgie von Ritual und Sprach.' " in *Continental Philosophical Review* 33: 381-393. See also Guba and Lincoln, (1989) and source material in Gadamer, *Truth and Method*. From Palmer, in Gadamer's conception of a "fusion of horizons," a horizon means the essence of a thing (or idea/concept), its intrinsic nature, its story (how its interpreted), or all that makes it what it is and understood how it is (inclusive of its history and context). The horizon of the interpreter (a divergent point of view) includes, but is not limited to "a collection of beliefs, hopes and fears," the world views that influences one's point-of-view (the interpretation). A horizon can also be seen as a 'vantage point' or 'range of influences', a set *panopticon* of knowing (with respect to Foucault). Where these horizons cross, "fusion" occurs. But, in order to have fusion, you also need flux or moments. That is, points-of-contact where the world is shared, co-affective, and co-affecting, albeit sometimes even in conflict (Dewey interestingly referred to 'conflict' as" the gadfly of thought," a generator of public concern). These points of contact are never neutral points, but places where activity is occurring in the most dynamic ways with the most dynamically interactive consequences. These fluxes can be seen as overlaps in knowledge and world-views, but also as meeting grounds for active engagement within a shared and mutually interpreted environment. To Gadamer, the range of vision that can be seen from a particular vantage point (divergent point of view) includes prior knowledge of the 'thing' each time it is interpreted, mixed with the time and conditions of the interpretation. It is essential to be aware of ones' prior set of conditions, biases, our position, and especially our boundaries (Gadamer 1993). Like Habermas's discussion of 'de-centering,' understanding occurs when one is 'placed' with(in) the horizon of the other, while also maintaining one's own horizon or vantage (and reciprocally drawing the other into one's own, even if in conflict). One does not put aside ones own horizon, rather, the interpreter mediates between others' ideas and their own.

[229] (like a sort of *Autopoiesis,* a self-balancing, self -creating system)

[230] This three-part circular process is also incorporated within the case-studies discussed later in this research, in particular with the *ETH* studies for regional development in *Zurich-Nord*, Chapter V.

[231] Ibid. Gadamer, *Truth and Method*.

[232] From Maurice Merleau-Ponty's *Phenomenology of Perception,* quoted by Dorothea Olkowski In "Merleau-Ponty and Bergson: The Character of the Phenomenal Field," In *Merleau-Ponty – Difference, Materiality, Painting,* ed. Veronica Foti (New Jersey, Hamnity Press, 1996), 27. To Merleau-Ponti, human perception is in itself a creative process of 'handling the world' (grasping) – making meanings and making ourselves through transactions with the world and with other beings"

[233] Jürgen Habermas. *Moral Consciousness and Communicative Action*. Trans. Christian Lenhardt and Shierry Weber Nicholson. (Cambridge: MIT press, 1990).   See also: Axel Honneth and Hans Joas. *Communicative Action: Essays on Jurgen Habermas's The Theory of Communicative Action.* (Great Britain: Polity Press, 1991). Honneth and Joas identify four basic themes within Habermas's *Communicative Action*: "a meaningful concept of the *rationality* of actions, the problem of an appropriate *theory of action,* a concept of *social order, and* the *diagnosis of contemporary society (rooted in the crisis).* They also argue that the basic idea behind this position is "that an in-destructible moment of communicative rationality is anchored in the social form of human life."

[234] Refer also to the notions regarding the monadic social sphere and the 'actor-network' as discussed in depth by such key figures as Bruno Latour (see Chapter IV, this research).

[235] Habermas. *Moral Consciousness and Communicative Action*, 135. To Habermas, "communicative action can be understood as a circular process in which the actor is two things in one: an *initiator,* who masters situations through actions for which he is accountable, and a *product* of the transitions surrounding him, of groups whose cohesion is based on solidarity to which he belongs, and of processes of socialization in which he is reared." Habermas also discusses practical discourse ethics from a Kantian moral action point-of-view and builds upon a constructivist learning model, wherein participants co-construct variations of the world depending on the dynamics involved and the communicated social goals.

[236] Habermas. *Moral Consciousness and Communicative Action*, 116-188; In Habermas' *The Theory of Communicative Action*, he also distinguishes between life-world and the notion of systems. See also: Johanna Mehan in *Feminists Read Habermas: Gendering the Subject of Discourse*, (New York: Routledge, 1995). As pointed out by Mehan, "This distinction between public and private parallels, but is not identical to, the distinction he draws between system and life-world. On the one hand, action in the modern world is coordinated by systems which function according to means-end rationality; the market is a paradigmatic example of such a system... On the other hand, actions are coordinated primarily by communicatively mediated norms and values, and by the socially defined ends and meanings which constitute the fabric of the life-world" (Re: *The Theory of Communicative*, 6-7).   Mehan further discusses Habermas's notion of "differentiation and structure of the public and private spheres as '*essential to the character of modernity*.'" (See also the Case Study sections of this research for these ideas in application.)

[237] In sociology, hermeneutics means the interpretation and understanding of social events, discourses, or artifacts by analyzing their meanings in direct relation to the human participants, their relations, and their culture. A significant principle of hermeneutics is that it is only possible to 'grasp' the meaning of something by relating it to the whole discourse or world-view (*Weltanschuung)* from which it resides, inhabits, or originates (as in situated or contextualized).

[238] Perez-Gomez, "Hermeneutics as Discourse in Design." (Deliberately reiterating the quote in context).

[239] This also brings up critiques of terms like 'sustainability', as we must 'ask what it is we are sustaining' (good and bad) and what we may be unwittingly eradicating.

[240] Again reiterating Wittgenstein's remarks, "Its meaning is its use." and "Words have meaning only in the flow of life."

[241] In addition to the discussed hermeneutical position, additional connections within the domain of environmental thought can be formulated through some basic insights within what is termed 'classical hermeneutics.' These primarily include discussions of Wilhelm Dilthey, as well as others, and the connections between language, historical formation, productions, and environmental conditions. Hermann Lötze, with his influence on Husserl and phenomenology, also makes interesting connections along these lines. Lötze in particular was also a precursor to Breton (influential to Heidegger's hermeneutics) and

influential to modern spatial aesthetics and pre-modern architecture in Vienna before the turn of the 20th century. He is influential to modern thought on many levels.

CHAPTER III:

[242] Henri Lefebvre. *The Production of Space*. trans. Donald Nicholson-Smith. (Oxford : Blackwell, 1991).

[243] *Umwelt, Miliue*. (Webster's Dictionary Online).; See: Kull, Kalevi. "On Semiosis, Umwelt, and Semiosphere. *Semiotica* 120, no. 3/4 (1998): 299-310; In addition, Felix Guattari, in his book *Chaosmosis*, extends the idea of an overall environment as an "intermonadic transversality," an interesting referential interplay with Leibnizian monadology. As part of a critical approach, intrinsic analysis of the total environmental context has to be applied to both inquiry and design processes. This can be seen in three basic fashions: Stepping outside of the situation to objectively view the interior; Rigorously engaging from the inside structure and sense order to see reverberation to the periphery; Or as interchange between the two-, a form of monadic de-(re-)territorializing (with respect to Deleuze and Guattari) of either and both through the 'other,' immanence. To Deleuze in his notion of a 'geo-philosophy,' for the subject and object, they are (paraphrased) 'neither revolving around nor a line drawn between the two dualistic positions.' For more here, see: Gilles Deleuze and Felix Guattari, *What is Philosophy,*? trans. Tomlinson and Burchell. (New York: Columbia University Press, 1996).

[244] Ibid. Kaveli, "On Semiosis, Umwelt, and Semiosphere," (1998).

[245] From Greek, *Oikoumene*- pertaining to the whole co-inhabited and 'agreed upon' world, for the purposes of working and dwelling together in harmony. The root prefix *Oikos*, translates to our prefix *Eco*, same root word we use for ecology and economy, as well as ecumenical (shared and agreed upon knowledge, universally). In addition to shared 'place,' when there are problems, they are also shared.

[246] *Milieu* is defined here from multiple sources for this research.

[247] Lefebvre. *The Production of Space*. (1991).

[248] Ibid.

[249] While we tend to think of ourselves culturally in a dualistic or binary condition vis-à-vis nature, and through this most discourses are 'causality' based, as in 'our causal effect upon nature,' while little is discussed on that nature as co-effective, taking back through its elements. In this is more an argument for a reciprocal epistemology for architecture, one where, instead of violating each other, a co-enabling set of conditions within and throughout each other, a "becoming other" (as above with Deleuze and Guattari).

[250] Edward Casey, *The Fate of Place.* (Berkeley: University of California Press, 1997).

[251] *The Institute for Ecosystem Studies* (internet source) defines *ecology* as "the scientific study of the processes influencing the distribution and abundance or organisms, the interactions among organisms, and the interactions between organisms and the transformation and flux of energy and matter." The definition of ecology presented here supports a "variety of ordinations and emphasizes the breadth" of the subject matter and as such fosters inclusiveness and knowledge integration towards ecological concerns (see Pickett *et al*, 1994, Figure 1.) To them, "ecology is shown as a continuum of specialties ordered by increasing proportion of attention devoted to the physical environment compensated for by decreasing focus on biotic features." To them, similarly substantiating the notion of the semiotic *Umwelt*, "the boundary between biotic and abiotic aspects is highly permeable and indistinct." Refer to their webpage: (www.ecosystems.org. – accessed June 2005)

[252] The environmental movement, as practiced, often takes the form of grassroots activism, public and community education programs, advocacy, legislation, and policies changing the general mindset.

[253]This idea or theme is reiterated through many research projects as in the works of F. Max Müller, Joseph Campbell, Marcea Elliade, Levi-Strauss, Emil Durkheim, Henri Lefebvre, just to name a few key figures. Closer to the topic, Frances Downing, architectural theorist and educator, promotes an idea of "eco-emplacemnt" as a way to address environmental issues in architectural pedagogy.

[254] A form of the Transcendental, nonetheless. See William Reese, *Dictionary of Philosophy and Religion –Eastern and Western Thought*. (New York: Humanity,1999). From the Latin *transcendere* meaning "to cross a boundary." To Kant, "transcendental" applies to the *a priori* and necessary elements of experience. To him, the concept of 'transcendental' is contrasted with that of 'transcendent'. Something

transcendent goes beyond the limits of experience, while something transcendental relates to the conditions of the possibility of experience. However, this text wishes to proceed into discussions of these boundaries in a more porous, fluid, or even tessellated way, allowing interchange to occur intrinsically rather than linearly (dualist modes). In this way, it more closely adheres to a certain monadology (Leibniz), wherein openings through boundaries are not expressed, but happen more as an intrinsic singularity or mutual correspondence.

[255] Read more in this research introduction and its chapter on critical social theory, where 'discourse' is defined and coupled with dialogue, discussion, hermeneutics, criticality, and communication.

[256] Neycet Teymur. *Environmental Discourse*. (London:?uestion Press, 1982).

[257] Stephen Sharples, "Review of *Environmental Discourse* by Necdet Teymur," *Urban Studies*. 21 (2): 202-203.

[258] Teymur, *Environmental Discourse*.

[259] Ibid.

[260] Ibid., 3.

[261] Ibid. In this, like Teymur, it is justified in this current research not to offer so-called distinct solutions, which might be taken as universal or singularly prescriptive, but to offer a possible framework which might intrinsically lead to multiple and regenerative solutions at multiple scales.

[262] Ibid., 5.

[263] Ibid. From his introduction.

[264] The discussion of 'social imagery,' as forming a way of re-presenting and knowing the world is brought up again below with the discussion of "Grounding Knowledge" (Preston, Code, Kawall, *et al*).

[265] Sharples, "Review of Environmental Discourse by Necdet Teymur," 202-203.

[266] Ibid.

[267] The concept of 'ontological' can be considered here as relational ways of being , the various ways of existence/modes of thought, and being as well as our relation with the world as singular. In this, we are concerned primarily with connections/interchanges between different modes of being, but also a responsible reduction of the generalist dualist ontology between subject/object and the self /world (environment). Here, ontology can also be extended to a discussion of 'sets' of relational properties, attributes, knowledges, or actions.

[268] Teymur, *Environmental Discourse,* 15-16. See his reference to Emmanuel Kant, ed. M. Rosenthal and P. Yubin, P. (1967), 324; and to G.W.F. Hegel, by Bernard Tschumi (1975).

[269] Ibid., 15-16. See also here his reference to Edmund Husserl respectively from authors E. Paci (1972), 465; and J.B. o'Malley, (1971),1.

[270] Teymur, *Environmental Discourse.* 17.

[271] Ibid. See below discussion of the *problematic*. The *problematic* (from Teymer) itself forms an intrinsic reciprocal (co-forming) part of our total epistemology.

[272] Ibid.

[273] Ibid. See his reference on this from Emil Durkheim (1966) and P.Q. Hirst (1975),123-173; on *external* forces see F.S.C Northrop, on "conspirational view" see Louis Althusser (1971), 123-173 (notes 3,4,&5)

[274] Ibid. For extended views, see his reference on this from L. Althusser (1971), 153-154.

[275] Teymur, *Environmental Discourse*. 18-19

[276] Ibid., 17. See his additional footnote reference on this from B. Hindess (1973b), 322.

[277] Ibid., 17. See his additional footnote reference on this from L. Althusser (1969), 67n.

[278] Solutions reside in a certain intrinsic rationale made possible by problems "already-present" (with respect here to M. DeLanda), thus the pragmatic is systemically hard-wired.

[279] Teymur, *Environmental Discourse*, 18-19.

[280] Ibid.

[281] Ibid.

[282] Necdet Teymur, *Prefixing Architecture: Re-viewing Re: Architecture: Themes and Variations.* (London: ?uestion Press, 2002).

[283] Ibid.

[284] Prasad Boradkar, "Review of Necdet Teymur's *Prefixing Architecture: Re-viewing Re: Architecture: Themes and Variations," Design Issues* 20, no. 3, Summer 2004: 83-85. This is reminiscent of Brian Fay's observance of the 'crisis' in the critical social sciences, discussed Chapter II of this research.

[285] Teymur, Environmental *Discourse.* Later chapters in Teymur's study discuss the relationships of the discourse, in essence an ontological discussion of status of the subject matter.

[286] Ibid., 18-19.

[287] With respect to Michel Foucault's use of the term (D*iscipline and Punish,* 1975).

[288] Teymur, *Prefixing Architecture: Re-viewing Re: Architecture:*

[289] Boradkar, "Review of Necdet Teymur's *Prefixing Architecture:"*

[290] Teymur. *Environmental Discourse*, 7.

[291] Derya Oktay, "Interview with Necdet Teymur." *Eastern Mediterranean University Research Newsletter* (Cyprus: Eastern Mediterranean University Printing-House, 2006).

[292] Ibid.

[293] Christopher J. Preston, *Grounding Knowledge: Environmental Philosophy, Epistemology, and Place* (Athens, GA: University of Georgia Press, 2003), 74. Quoted by Lorraine Code in "Here and There: Reading Christopher Preston's *Grounding Knowledge*." *Ethics, Place, and Environment* 8, no. 3 (Taylor & Francis: October 2005): 349-360.

[294] Ibid. Preston, *Grounding Knowledge.*

[295] Christopher J. Preston, "Restoring Misplaced Epistemology," *Ethics, Place, and Environment* 8, no. 3 (Taylor & Francis: October 2005): 373-384.

[296] Keeping in mind, that *knowledge* and *action* are being formed and interwoven together in this picture.

[297] Preston, "Restoring Misplaced Epistemology."

[298] Ibid.

[299] Ibid.

[300] Ibid.

[301] Ibid.

[302] Ibid.

[303] Referring again here to Preston's *Grounding Knowledge*, 24.

[304] Lefebvre. *The Production of Space*. 71.

[305] Code, "Here and There: Reading Christopher Preston's Grounding Knowledge," 357. The idea of *Habitat* can be considered the specific place of dwelling, while *Ethos* is the generally distinguishing character, virtues, beliefs, ethical, or moral nature of an agent (person, group, or institution).

[306] Ibid., 357.

[307] Pierre Bourdieu, *Outline of a Theory of Practice*. (Cambridge: Cambridge University Press, 1977).

[308] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357. Code also points out, "civilized–non-civilized hierarchies pervade dominant conceptions of rationality in both morality and epistemology has contributed to ongoing colonization and oppression." She takes up this notion again below in her acknowledgment of social domination and its construction of knowledge. This stance is reiterative of critical social theory, as well as the poststructuralist (primarily feminist) view taken up in discourse analysis.

[309] Ibid., 357. Again referring to and describing Preston's view in his *Grounding Knowledge.*

[310] Ibid., 353. Refer also to Lorraine Code, *Epistemic Responsibility* and *What She Can Know* (listed in bibliography).

[311] Code, "Here and there: reading Christopher Preston's *Grounding Knowledge*," 357. In regard to Preston's *Grounding Knowledge,* Code states that " he nonetheless observes that assumptions about rationality and belief claim a constitutive place in the ethical theories of such philosophers as Aristotle, Kant and Hume," another way the subject is grounded in the history of thought.

[312] Ibid., 357.

[313] Preston, "Restoring Misplaced Epistemology."

[314] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357; See also Jason Kawall, "Grounded Knowledge, Place and Epistemic Virtue," *Ethics, Place & Environment*, 8(3): 361–371, 363. Referenced by Preston in "Restoring Misplaced Epistemology" as well as below.

[315] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357; See also Lorraine Code, *Epistemic Responsibility* (Hanover, NH: University Press of New England, 1987). "Second-Self" is explained here in her work in more detail, with its particular relation to Aristotle's "friendship model" (*Nichomachean Ethics*). This will be discussed further within the section of this research on 'agency' and 'community,' Chapter IV. Code also brings to light here two important concepts to self-hood and responsibility in knowing: *Interpersonal* ("occurring among or involving several people; Target of the intervention include change to social norms and/or social influences) and *Intrapersonal* ("Existing or occurring within the individual self or mind; Target of the intervention includes change to characteristics of the individual, such as knowledge, attitudes, skills, behaviors, or intentions to comply with behavioral norms").

[316] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357; Preston, "Restoring Misplaced Epistemology," 373-384.

[317] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357; She acknowledges the significant influences of Gilles Deleuze in philosophy and states in her notes that: "The concept ecological naturalism is not entirely my own, Patrick Hayden used it to characterize aspects of Gilles Deleuze's work: see Patrick Hayden 'Gilles Deleuze and naturalism: a convergence with ecological theory and practice,' *Environmental Ethics*, 19 (1997): 85–204." See also: Lorraine Code, *Ecological Thinking: The Politics of Epistemic Location* (New York: Oxford University Press, 2006).

[318] Code references here: Verena Andermatt Conley, *Ecopolitics: The Environment in Poststructuralist Thought* (London: Routledge, 1997), 42.   ("in Verena Conley's words")

[319] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357.

[320] Ibid.

[321] See for example, Sandra Harding, "Rethinking Standpoint Theory: What is 'Strong Objectivity'?," in Linda Alcoff and Elizabeth Potter (eds.), *Feminist Epistemologies* (New York, Routledge, 1993).

[322] See Code's reference here to Harding's "Rethinking Standpoint Theory: What is 'Strong Objectivity'?," 49–82, 73. This notion is also reminiscent of C.S. Peirce's view that the rules of the cosmos or of nature of things themselves (multiplicative and intrinsically ethical between its components) provide the underlying guiding system toward continuity of knowledge and 'care' as essential and integral to life-itself.

[323] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 357.

[324] Codes refers to and quotes: Kristin Shrader-Frechette, 'Ecology', in Dale Jamieson (ed.), *A Companion to Environmental Philosophy* (Oxford, UK, Blackwell, 2001): 304–305, 313–314.

[325] Code, *Epistemic Responsibility*. These concepts are also referred to in critical theory in terms of *agent* (self) and *agency* (capacity to act).

[326] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*," 349–360.

[327] Ibid.

[328] Ibid.

[329] Ibid. See also: Code, *Ecological Thinking: The Politics of Epistemic Location*.

[330] Ibid.

[331] Refer to the following chapters for the correspondence of these positions to the conceptual units of *Critical Environmentalism*, Chapter IV.

[332] Preston, "Restoring Misplaced Epistemology," 373-384.

[333] Kawall, Jason (2005) "Grounded Knowledge, Place and Epistemic Virtue," *Ethics, Place & Environment*, 8(3): 361–371. (p363) Referenced by Preston in "Restoring Misplaced Epistemology."

[334] Ibid., Kawall.

[335] Mark Johnson, *The Body and the Mind* (Chicago, IL: University of Chicago Press, 1987).

[336] Kawall referring to Ernest Sosa's work and his use of the term.

[337] Kawall, Jason (2005) "Grounded Knowledge, Place and Epistemic Virtue," 361–371,363. Also referenced by Preston in "Restoring Misplaced Epistemology."

[338] Ibid.

[339] Ibid.

[340] Ibid.

[341] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*.";
Preston, *Grounding Knowledge* (2003). The issues of 'values awareness' within the scope of environmental discourse and education will be discussed further later within this section. Refer to below discussion on *Critical Thinking and Interdisciplinarity in Environmental Higher Education: The Case for Epistemological and Values Awareness* (*TALESSI*).

[342] Preston, *Grounding Knowledge,* 126. As pointed out by Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*." See also source: Johnson, *The Body and the Mind*.

[343] Ibid. Code.

[344] Ibid.

[345] Preston, "Restoring Misplaced Epistemology."

[346] Ibid.

[347] Ibid.

[348] Lefebvre. *TheProduction of Space*.

[349] Preston, "Restoring Misplaced Epistemology"; Preston, *Grounding Knowledge.*

[350] Preston, "Restoring Misplaced Epistemology."

[351] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*."

[352] Preston, "Restoring Misplaced Epistemology."

[353] Code, "Here and There: Reading Christopher Preston's *Grounding Knowledge*."

[354] Ibid..

[355] Preston, *Grounding Knowledge*.

[356] Reminiscent of formal hermeneutics, as in Gadamer's 'fusion of horizons' or Habermas' 'communicative action,' as imperative to the formation of communal knowledge and understanding.

[357] Van Buren, John. "Critical Environmental Hermeneutics." <u>Environmental Ethics</u> 17, The center for Environmental Philosophy, University of North Texas (Fall 1995): 259-275.

[358] Ibid.

[359] Ibid.

[360] Ibid.

[361] Kristoffer Lundholm and Renauld Richard, "Engaging Individuals to Act Strategically Towards Sustainability." (Master's Thesis, Strategic Leadership towards Sustainability, Blekinge Institute of Technology, Karlskrona, Sweden, 2005).

[362] Lundholm, Kristoffer and Richard, Renauld. *The Five Elements Guide: Structured Information to Help Engage Individuals to Act Strategically Toward Sustainability*, published Master's Thesis (Sweden: BTH Karlskrona, 2005).

[363] Lundholm and Richard, "Engaging Individuals to Act Strategically Towards Sustainability."

[364] Lundholm and Richard, *The Five Elements Guide:*.

[365] Lundholm and Richard, "Engaging Individuals to Act Strategically Towards Sustainability."

[366] Ibid.

[367] Ibid.

[368] Ibid.

[369] Ibid.

[370] Ibid.

[371] Ibid.

[372] Here the authors quote and reference G. Carstedt from a Fall 2004 Class Lecture in their Master in Strategic Leadership towards Sustainability, BTH, Karlskrona, Sweden.

[373] Ibid.

[374] See *ETH* studies in Chapter V of this research (Re: Scholtz and Teitje, *Embedded Case Study Methods*)

[375] Ibid. Lundholm and Richard's reference to G. Carstedt.

[376] P. Senge and A. Kleiner, e*t al.. The Dance of Change: The Challenges of Sustaining Momentum in Learning Organizations*. (London: Nicholas Brealey Publishing, 1999).

[377] Lundholm and Richard, *The Five Elements Guide:*..

[378] David Orr, *Earth in Mind: On Education, Environment, and the Human Prospect.* (Washington: First Island Press, 1994, 2004). Many references on the subject of environmental education discuss Orr's writings about systemic integration of education. Some of which are included in the bibliography at the end of the paper. See also: Orr, David. *Ecological Literacy. Education and the Transition to a Postmodern World.* (Albany: State University of New York Press, 1992).

[379] In this case, an epistemic framework is defined as the systemic interrelationships the critical, constituent components of knowledge. This research refers to Michel Foucault, from his *The Archaeology of Knowledge*, and his use of the concept (1972, p191). See Chapter II of this research in this regard.

[380] John Danvers. "Towards a Radical Pedagogy: Provisional Notes on Learning and Teaching in Art & Design." *International Journal of Art & Design Education* 22-1 (February 2003): 55. Danvers is both an artist and a renowned educator who discusses alternative approaches.

[381] Ibid.

[382] David Selby, "Education: Towards a Quantum Model of Environmental Education." University of Toronto, Canada, *Environmental Learning and Sustainability*, *Global Online Colloquium Oct. 19-30, 1998:* (http://www.ec.gc.ca/education/documents/colloquium/selby.htm - accessed June 2004)

[383] The intellectual mindset is also engaged with linguistic/semeiological parameters and is rooted in a both logical and non-logical thought, as in mythical and religious in nature. These are recurrent themes in much Ernst Cassier writings, as with the later Susanne Langer. These positions are also supported by such philosophers as Paul Ricoeur, whom Kenneth Frampton bases much of his writings on regionalism.

[384] Perhaps ideologically reminiscent to common sense ideals as presented by Vitruvius 2000 years ago.

[385] Selby, Education: Towards a Quantum Model of Environmental Education."

[386] Danvers. "Towards a Radical Pedagogy," 52. In this case, the point-of-views of Selby, Danvers, as well as with Orr strikes the nail on the head with brutal consistently.

[387] Ibid. Danvers, 53. Adapted from his reference to design and arts education in general.

[388] Ibid. Danvers, 55. The parts cannot outweigh the whole and vice versa when thinking systemically. All the constituent parts are given equal value.

[389] Selby, "Education: Towards a Quantum Model of Environmental Education."

[390] Danvers. "Towards a Radical Pedagogy," 55.

[391] Orr. *Ecological Literacy*. Also to Orr, in *Earth in Mind*, the "ecological crisis [or in this case a total environmental crisis] is a crisis of education."

[392] Orr. *Ecological Literacy*. Orr also brings to light what we have already-present in the concept-meanings of words, as sources for our thinking and ideas we may have left behind. For instance, the root word for *radical* is basically '*root*,' so to be radical is to get to the source. Another, *religare*' is derived as a root for 'religion', which means to bring or bind together (discussed elsewhere in this research). To religious and mythological thinking, a primary source for symbols and language meanings is generally tied into its original sources in Nature and the pure primordial conditions (God). The root word for 'ecology' as well as 'ecumenical' (*eco*) comes from the Greek/Indo-European (*oikos*), which means to inhabit or dwell on the earth communally (agreeable relation). See also Fritjof Capra: *They Might be Giants*, Ecologist Online (Date: 01/05/2003). A community should be intentionally designed to be equally ecologically and socially sustainable as a total package.

[393] To Steven Moore, in *Place and Technology* (referenced below, Chapter IV), sustainability must be part of democratic and multi-methodological processes. See below elaborations in Jones, P.C., Merritt, J. Quentin, and Palmer, Clair*, "Critical Thinking and Interdisciplinary in Environmental Higher Education: the case for epistemological and values awareness." *Journal of Geography in Higher Education*, 23(3):(1999): 349-357. To their "*TALESSI*" (*Teaching and Learning at the Environment-Science-Society Interface)* project, both environmentalism and critical thinking are inherently interdisciplinary. Environmental education requires critical thinking and education as well as values awareness, which is taught socially. These ideals presented lead to many other studies in education (inclusive of both environmental and architectural education), concerning critical notions of economic social cast, gender, ecology, biodiversity, and dominant (Western, colonial) modes of thinking as fundamental root problems underlying our greater social and environmental issues. Each has collective accountability for their role in

the issues. Getting to the root of problems is essential to understanding and thus making critical assessments toward change.

[394] Quoted by Jones, *etal,* from M. Kronholm, *1996 The Impact of Developmental Instruction on Reflective Judgment*, *Review of Higher Education*). Refer to their citing of this material.

[395] Jones, P.C., Merritt, J. Quentin, and Palmer, Clair. "Critical Thinking and Interdisciplinarity in Environmental Higher Education:" (Peter C. Jones & J. Quentin Merritt, University of Greenwich, London, UK and Clare Palmer, University of Stirling, UK) See also their preceding work: "The *TALESSI* Project: Promoting Active Learning for Interdisciplinarity, Values Awareness and Critical Thinking in Environmental Higher Education." *Journal of Geography in Higher Education* 23, No. 3 (1999):335-348. Recent developments in environmental research, using critical theory as a base, have been focusing certain interdependence between the epistemological modes, which have a direct impact on environmental concerns. They indicate a common tend on the (inter)-dependence on each others knowledge bases in order to make theirs more viable, thus supportive of co-strengthening and co-enabling modes of thought. The key element in this interdependence is the higher-level of attention to complexities by distributing the load of knowledge to respective authorities and sharing the problems (owning up to it, co-accountability). (From the *TALESSI* Model). Each accountable agent makes choices based on their particular interaction and accountability with the environment, and how these various choices come together forms the larger picture. This new information needs to be introduced into mainstream research in the built environment, and the theoretical models of design process need to be updated, amended, or otherwise overridden with the new episteme in this regard.

[396] Jones, *et al*., "Critical Thinking and Interdisciplinarity in Environmental Higher Education:"

[397] Ibid.

[398] Ibid. While studying various programs in higher, environmentally-related education (as with Environmental design and sustainability as a base for architecture programs), they found that although many claim to be interdisciplinary directive and that this interdisciplinarity was a 'good thing', "very few programs actually ever achieve interdisciplinarity to any meaningful degree in practice."

[399] Re: Habermas, *Moral Consciousness and Communicative Action* (re: Chapter II, this research).

[400] Jones, *et al*., "Critical Thinking and Interdisciplinarity in Environmental Higher Education:" This mirrors William Perry's notion of *moral development*, of which he labels a non-critical, 'dualistic view' toward the authority of knowledge and thus places this view low on an awareness scale. See also more recent work in this area by Carol Gilligan, *et al*, *Mapping the Moral Domain*, discussing extended moral implications of this notion in education and development.

[401] Jones, *et al*., "Critical Thinking and Interdisciplinarity in Environmental Higher Education:"

[402] Ibid. Here is a strong argument that inter- or trans- disciplinary interaction is a fundamental component of environmental education and its practice, as it involves the whole environment and all practices and ideologies within it in conjunction. By its intrinsic set of conditions, critical social theory and critical education thinking crosses many disciplines and involves) promotes inter- or trans-disciplinarity.

[403] Ibid. They describe *Constructivism* is closely associated with same developments in the *Continental Philosophies*, with the emergence of postmodern/post-structural modes of thought and analysis (see also similar discussions in Structuralist or Formalist discourse). Within this epistemologically-oriented paradigm, Jones, *et al*. say that "psycho-biographical and wider social considerations influence the choice of subject-matter, the ways in which research is carried out, and the ways in which data is interpreted and used." They also bring to light *Cognitive Research* and its studies in the ways neurological and physical (natural, organic) processes also play a role in our "observations of external reality." Extreme constructivism, known as *strong constructivism*, makes claims that knowledge is entirely determined by social processes and as such not an indicator of external reality. In the more moderate version, known as *mediated constructivism*, knowledge reflects both subjective, socially processes and objective, external reality. To Jones and company, these tenets "allow[s] for greater or lesser degrees of subjectivity in knowledge claims, but does not admit the possibility that subjectivity can be eliminated altogether." Here is also reference to Thomas Kuhn's *The Structure of Scientific Knowledges* (1962) as a "detailed case study in the history of science" forming as series of emerging and overriding paradigms. The *TALESSI* authors make multiple references to source material in these cases.

[404] Ibid. Another form of this constructivist realism is known as *critical realism*, which promotes an anti-relativist view (Norris 1997, following Derrida) stating that scientific knowledge is more than simply interpreted through a socially constructed community or simply passed through filter of "dominant beliefs, metaphors, or world hypotheses of some time and place" (as in contextual world-view). Instead that it should be viewed as "a process of exegesis and critique, one which starts out from images, naturalized metaphors, intuitive sense-certainty and the like, but which then – through successive refinements and elaborations – achieves a more adequate theoretical grasp (*Begriff*) of the phenomenon it seek to explain. See original reference to C. Norris, *Against Relativism: Philosophy of Science, Deconstruction, and Critical Theory* (Oxford: Oxford University Press, 1997).

[405] Jones, *et al.*, "Critical Thinking and Interdisciplinarity in Environmental Higher Education:" To them, since we fundamentally are confronting a *crude realist* position, with a lack of epistemological awareness that sets conditions for thought that are fundamentally "incommensurable" with the constructivist positions, it is hard to integrate it without conflict and confusion, thus potentially more fragmentation. This argument is more or less in more aligned with '*mediated constructivism,*' that knowledge contains both subjective and objective components, and that the degree of subjectivity can be reduced progressively. This discussion comes to the conclusion that a true interdisciplinary framework, and thus an interactive and holistically inclusive view toward the environment, cannot be productively fostered within a fragmented or "compartmentalized" epistemology for education. They state that as such environmental subject should align with each other as true interdisciplinarity, and not just subjects simply grafted as "modules" onto existing frameworks.

[406] Ibid.

[407] Ibid.

[408] Ibid.

[409] Ibid.

[410] See Lorraine Code, *Epistemic Responsibility* and *What She Can Know* (listed in bibliography and throughout this research), which discusses further the significance of the knowing subject.

[411] Jones, *et al.*, "Critical Thinking and Interdisciplinarity in Environmental Higher Education:" They claim that "the least recognized and deeply seated of influences (on higher education teachers, learners, source material, and curriculum) is that of the collective knowledge of disciplines or 'epistemic communities," related to environmental education directly or indirectly. This influencing agency is seen here as "taken-for-granted knowledge which are discipline specific," and which have their own world-views and ways in which knowledge can be produced and validated. This basically reflects the Habermas and Gadamer debate in hermeneutics over the degree of biases or traditional beliefs or knowledges (*a priori*) which are always present in the structured or institutional construction of social understanding.

[412] Ibid., Jones, *et al.*

[413] Re: Gadamer's *Truth and Method* and Habermas' *Moral Consciousness and Communicative Action* on social construction of values. Though subjectivity is important to the critical approach, as it depends on the individual (the human agent) for critical understanding to occur, which varies with subject and their context. The subjectivity can be greatly reduced when a socially dominate or institutionalized structure sets objective modes of being/knowing in a social framework to validate knowledge and issues like morality or ethics, 'dong-the-right-thing' in and for our social settings.

[414] Jones, *et al.*, "Critical Thinking and Interdisciplinarity in Environmental Higher Education:"

[415] Ibid. To the authors, as this varies among disciplines ('soft' sciences versus 'hard' sciences), it is not uncommon though for some to "acknowledge and critique underlying assumptions, and to tolerate and debate difference," which provides avenues to critically "identify and explore value commitments within their [own] education."

[416] Quoted from Deleuze and Guattari, *What is Philosophy*, "Geophilosophy" (New York: Columbia, 1994); *"...Whether physical, psychological, or social, deterritorialization is relative insofar as it concerns the historical relationship of the earth with the territories that take shape and pass away on it, . . ."*

[417] Refer to source material: Martin Heidegger, *Being and Time* (*Sein und Zeit*), trans. John Macquarie and Edward Robinson (London: SCM Press, 1962).

[418] Refer to source material: Warwick Fox, *Toward a Transpersonal Ecology – Developing New Foundations for Environmentalism.* (Boston: Shambala Publications, 1990). This trans-spiritualism is a subject only grazed by this research and subsequent discussions. However, this concept is intrinsically a vital aspect toward a self that has reached fulfillment in direct relation to the greater domain or 'other.'

[419] Reference and respect again here to the writings of C.S. Peirce and his discussion of 'continuance.'

[420] Deleuze, Gilles and Guattari, Felix. *A Thousand Plateaus.* trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987). Another way of thinking (and thinking ethically) about this may lie in the fact that the system at various points has made our 'being-thinking' possible. All possibilities may already be present the system and our thinking is thus only observing and documenting its processes.

[421] This is a subject also brought forth similarly by C.S. Peirce in his discussion of 'continuance' of the self as part of an overall creative and loving evolution. See later discussion in this research along these lines for references and elaborations (self, ethics and values).

[422] Heidegger, *Being and time*. Extension of the concept of "being-in-the-world (*Dasein*)."

CHAPTER IV

[423] Bill Hillier and Adrian Leaman, "Architecture as a Discipline," Journal of Architectural Research 5 (1 March 1976): 28-32.

[424] The *Critical* mode relates the concept back to critical theory, rooted in individuated hermeneutics and social practice. It is critical because its direct engagement with societal issues in the shared life-world. The *Environmental* mode *grounds* this critical social thought within and throughout the very space or more specifically the *place* of its occurrence, where the 'other' is the reciprocally co-enabling device critical to the former. The combination establishes the immediacy of careful, critical evaluation of environmentalism within the greater epistemological domain. The assemblages of parts are intrinsically (inherently, essentially) immanently critically (vitally) engaged in critical interdependency. That is, the knowledges of any particular are in part and parcel the knowledges of the other (co-defining knowledges). A hermeneutic mode of thought couples with architectural thought to foster dialogic and connective, interdependent, and co-enabling episteme. Multiple domains must be critically merged and engaged to be co-enabling in a total, systemic environment, hence the need for an underlying hermeneutic structure, the 'why' for both this research and the application of the framework for environmental thinking in architecture.

[425] This construct is also akin to such theoretical frameworks as proposed by 'critical' or even 'radical conceptualism,' albeit keeping in mind the aspects of 'place' and identity while also developing a stronger, more direct bearing with environmental philosophies. This is also interrelated with various forms of 'contextualism' (*situationalist* theories) or even constructivist hermeneutics, wherein communal action plays a role in the co-interpreted understanding and making of particular aspects of the life-place.

[426] The epistemological framework supportive of a *critical environmentalist* paradigm for architectural education in particular can be refined into two basic, but intrinsically interrelated, philosophical categories; those of "*embodiment*" and "*emplacement*," both of which stem out of and permeate an inclusive amalgamation of systems and complexity theory, biology and ecology, geography, social sciences, feminist and critical epistemology, hermeneutic constructivism, and phenomenology.

[427] Brian Fay, *Critical Social Sciences: Liberation and its Limits* (Ithaca: Cornell University, 1987). The key conceptual language here in this diagram is derived from Fay's discussion of an 'activist ontology,' as discussed in more depth in the preceding Critical Social Theory section of this research, Chapter II.

[428] Ibid., Fay, *Critical Social Sciences.* On the concept of *habitus* see also: Bourdieu, *Pascalian Meditations* and Bourdieu, *Outline of a theory of Practice.* For an additional overview of concepts see*: Craig Calhoun, Edward LiPuma, and Moishe Postone, *Bourdieu : Critical Perspectives.* (Chicago: University of Chicago, 1993).

[429] Jürgen Habermas, *Moral Consciousness and Communicative Action.*

[430] C.S. Peirce's notions in this regard will be discussed further later in this chapter.

[431] This is a problem particularly for education, as it sets conditions for social action. Environmentalism, as proposed by such key figures as David Orr, speak of all education as inevitably environmental and

having its key thrust toward identifying "root causes" and to make the necessary "connections" of disciplines and knowledges to get at them. Re: David Orr, *Ecological Literacy. Education and the Transition to a Postmodern World* (Albany: State University of New York Press, 1992); and David Orr, E*arth in Mind: On Education, Environment, and the Human Prospect* (Washington, DC: Island Press, 1994).

[432] Necdet Teymur. *Environmental Discourse.* See also Chapter III for additional discussion on this subject and with Christopher Preston's subject in *Grounding Knowledge*.

[433] Warwick Fox, *Toward a Transpersonal Ecology.*

[434] Kristoffer Lundholm (personal communication, February 5, 2008). The *Five Elements Guide* is discussed in detail in the environmental discourse, Chapter III of this research.

[435] Ibid. Lundholm.

[436] Ibid. Lundholm.

[437] Ibid. Lundholm.

[438] David Orr, *Ecological Literacy.*

[439] This notion is also seen in such significant proposals as the *Hanover Principles*, as proposed by William McDonough in correspondence with the World Expo 2000. This document is available in multiples sources in print and online. Here, McDonough and others lay out a series of ideologies toward sustainable urban and community development that have been incorporated in many places.

[440] Key points compiled from personal conversations with Julian Hanson and William Hillier at the Bartlett School in London (September, 2004). See also their co-written book on the subject, *The Social Logic of Space.* (Cambridge: Cambridge University Press, 1984).

[441] Ibid. To Julian Hanson, architects tend to "make up" language, often detached from the issue-at-hand.

[442] Ibid. Julian Hanson. The discussion also brings to light that social spatial productions and the physicality of space correspond with social organizations and perceptions.

[443] Phillip Payne, (personal communication, January 18, 2005).

[444] Iain Robottom and Paul Hart, *Research in Environmental Education- Engaging the Debate* (Sidney: UNSW Press, 1993), 65. (Cataloged also with Deakin University: Deakin University Press, 1993).

[445] Ibid. This excerpt is quoted and referenced in John Fien, "Advancing Sustainability Design Education," *International Journal of Sustainability in Higher Education*,(2002), 243-253. While this material discusses the subject in depth, perhaps beyond the initial scope of this research, environmental educator Phillip Payne (personal communication, January 18, 2005) recommends this source for future research along these lines.

[446] Joy Palmer. *Environmental Education in the 21st Century Theory, Practice, Progress and Promise.* (New York: Routledge, 1998).

[447] Adrian Snodgrass, "Hermeneutics and the Application of Design Rules, Gadamer, Action & Reason," (Sidney: Department of Architecture and Design Science, University of Sydney, 1991), 1-11. To Snodgrass, "The argument is developed by reference to Gadamer's interpretation of juridical understanding; his review of Aristotle's concepts of ethical [and practical] knowledge (*phronesis*); his assertion that interpretations, understanding and application are coincident [and quite inseparable except in conceptual or abstracted discourse]" (These issues are also discussed similarly in brief in a personal communication with Professor Snodgrass, June 20, 2005).

[448] Leff, Enrique. "Nature, Culture, Sustainability: The Social Construction of an Environmental Rationality," *Ecological Threats and New Promises of Sustainability for the 21 Century* (Oxford : Queen Elizabeth House 50 Anniversary Conference, 3-4 July, 2005).

[449] Ibid.

[450] Ibid.

[451] Re: Chapter III and discussion of Lundholm and Richard, *The Five Elements Guide:*.

[452] Keith Diaz Moore, (personal communication, February 3, 2005). This excerpt is from an email conversation discussing the potential critical episteme' for architectural education, substantiating components of the proposed framework.

[453] That is, as Aristotle, Kant, Schleiermacher, and Peirce entail in varying approaches. Each of these philosophers is known to have developed a system based on cross-referencing categorical positions within

a matrix in order to get a picture of knowledge within a holistic framework. As a reference, see Kant's section on the 'Architectonic' in his *Critique of Pure Reason* (multiple versions). In addition, Schleiermacher also discusses a unique architectonic of knowledge, covered in James M. Brandt's *All things New – Reform of Church and Society in Schliermacher's Christan Ethics. Columbia (Theological Seminary) Series in Reformed Theology.* (Louisville: Westminster John Knox, 2001).

[454] Hausman, Carl R.. *Charles S. Peirce's Evolutionary Philosophy.* (Cambridge: Cambridge University Press Syndicate, 1993).

[455] The network of lines indicates the permeating, multi-levels of inter-operational action, epistemes and axiologies. The outer areas move towards the supra-knowable, permeating to levels of spirituality.

[456] The root word for 'religion', *religare*, essentially means to bind or to bring together. This notion can be extended to assume that the 'binding together' itself forms the nature of belief.

[457] Both connected and inter-dependant, as this is not an A + B= C procedure or recipe for success, but more of a guiding framework for managing a multitude of elements that must be simultaneously engaged at their varying levels. The units only aid us as manageable units or levels of engagement within a more complicated, less manageable, total picture.

[458] Marco Frascari, *Monsters of Architecture – Anthropomorphism in Architectural Theory* (Maryland: Roman and Littlefield, 1991), 1.

[459] Quoted by Bruno Latour in "Gabriel Tarde and the End of the Social" (online version), *The Social in Question. New Bearings in History and the Social Sciences,* ed. Patrick Joyce (London: Routledge, 2001), 117-132. *(http://www.ensmp.fr/ latour/*articles/article/082.html). He references from Gabriel Tarde, *Les lois sociales* (Paris: Les empêcheurs de penser en rond, 1999 réédition), 69.

[460] Here Latour references: Gabriel Tarde, *Monadologie et sociologie* (Paris, Les empêcheurs de penser en rond, 1999 réédition de 1893) (based in the Leibniz's Monadology, below); See also Hans Comijn, "A Tardean Sociology of Mathematics," *Imbroglio Online Journal.* Issued Monday, September 19th (2005), (http://www.imbroglio.be/site/spip.php?article70); For more on the Monadology, refer to Leibniz Gottfried (1701), *Discourse on Metaphysics, Correspondence with Arnauld, Monadologie,* trans. G. Montgomery (La Salle, Illinois: Open Court, 1965).

[461] Ibid. Bruno Latour, "Gabriel Tarde and the End of the Social," 117-132.

[462] Ibid.

[463] Hans Comijn, "A Tardean Sociology of Mathematics."

[464] Ibid.

[465] Bruno Latour, "Gabriel Tarde and the End of the Social," 117-132. To Latour, "The big, the whole, the great, is not superior to the monads, it is only a simpler, more standardised, version of *one of the monad's goal which has succeeded in making part of its view shared by the others*."

[466] Ibid.

[467] This is referred to in much of Bruno Latour's work as also with the referential works of Gabriel Tarde and Michael Callon in association. Their "material-semiotic" method which is in many ways akin to the "eco-semiotics" or even "bio-semiotics" of the *Umwelt* as proposed by such persons as Kaleva, as well as the positions taken up by Deleuze and Guattari (*1000 Plateaus*, referred elsewhere in this text). To them, there is an ever becoming-other of the multifaceted self, emerging within and without the *life-place.* Guattari extends discussions along these lines, *Chaosmosis – An Ethico-aesthethic Paradigm* (Bloomington: Indiana University Press, 1995) in his notion of the "*transversal-inter-monadic.*" This can also paired with situational analysis where all actors come together in active relationships based on circumstances, context, and location, as proposed by such persons as Donna Haraway (see reference to her work in the critical structural analysis section of this research). To these positions there are sliding relations between material and meanings as part of the dynamic relations of the engaging actors, inclusive of humans and non-humans in interrelations. Further connective work in detail as supportive of this aspect of this critical approach is for now reserved, but much needed for future studies along these lines.

[468] Brian Fay, *Critical Social Sciences: Liberation and its Limits.*

[469] Necdet Teymur, *Environmental Discourse.* This work takes on these extended dimensions, as discussed earlier in this research.

[470] Edouard le Roy, *A New Philosophy: Henri Bergson*, *Critique of Language*, trans. Vincent Benson (Boston: Indy Publish, 1912), 79.

[471] Ludwig Wittgenstein, *Culture and Value,* trans. Basil Blackwell, (Chicago: University of Chicago Press, 1980).

[472] Enrique Leff, "Nature, Culture, Sustainability." (Re: Michel Foucault. *Discipline and Punish: The Birth of the Prison.* 1977:74, 76).

[473] Even moral code and action, with respect to Habermas' *Communicative Action*.

[474] Frances Downing (from numerous personal communications and in-class notes, spanning 2000-2009). See also her work: *Remembrance and the Design of Place.* (College Station: Texas A&M Press, 2001).

[475] This notion also goes back to Kant in the modern philosophical tradition.

[476] Lorraine Code, *Epistemic Responsibility* (Hanover: University Press of New England, 1987), xiv, 272. See also from John Heil (Davison College) Review of Lorraine Code*'s Epistemic Responsibility*. *Journal of Philosophy and Phenomenological Research* (1991), 742-745.

[477] Ibid. John Heil.

[478] Ibid. Lorraine Code, *Epistemic Responsibility*, p161-169.

[479] Enrique Leff, "Nature, Culture, Sustainability."

[480] Ibid.

[481] Ibid. Leff discusses the understanding of using the term '*savoir*' to designate a particular type of knowledge (a limitation of the English language to capture the varying forms of the idea in linguistic form). He states in his footnote, "I will use in this paper *knowledge* to refer to that rational comprehension produced by science and to the rational approach to objective knowledge, somehow contrastable and falsifiable with reality. I will use *savoir* to refer other ways of cognition and understanding, not limited to the meaning of traditional wisdom, that privilege the relation of knowing with thinking and being. If knowledge is a relation between theories and concepts with reality, savoir establishes a connection with subjectivity. *Savoir* is both a substantive noun and an active verb; it is intrinsically embodied in visions, feelings, senses, practices. A certain way of being is thus interrelated with a kind of savoir. *Savoirs* enter into the field of *power in knowledge* going beyond any strictly rational means to solve the conflicts between competing and conflictive "paradigms" through rational means to attain an objective truth and make rational choices. Beyond interdisciplinary approaches and communicative rationality, a dialogue of savoirs is a relation not with the *Real*, but with the *Other* (Cf. Leff, 1998, 2004)"

[482] Ibid. Leff incorporates the Spanish word, *ambiental*, meaning 'environment'. For English, the word 'ambient' (from multiple sources) implies encompassing, surrounding, enveloping, or prevailing condition or even atmosphere (as also associating with the senses). It also implies a certain closeness or proximity, even to the point of co-affection.

[483] Ibid. This idea reiterates many of the same conceptual notions discussed in van Buren's "Critical Environmental Hermeneutics," as elaborated in the environmental discourse chapter of this research.

[484] Ibid. This is discussed in more depth in relation to 'systems of knowledge' later in this chapter.

[485] Elizabeth Ellsworth, *Places of Learning –Media, Architecture, Pedagogy.* (New York: Routledge-Falmer, 2005).

[486] Key points compiled from personal conversations and a formal lecture by Coleman Coker as part of the SIUC Fines Arts Lecture Series (Spring 2005), followed up with additional conversation at the University of Tulane in conjunction with Southern Illinois University, School of Architecture Fall 2008 urban studio, in regard to urban renewal and social housing projects in New Orleans after hurricane Katrina.

[487] David Orr, *Ecological Literacy* ; see also David Orr, *Earth in Mind: On Education, Environment, and the Human Prospect* (Referred to also by David Selby, see below).

[488] David Selby, "Education: Towards a Quantum Model of Environmental Education," *Environmental Learning and Sustainability online publications*, *Global Online Colloquium Oct. 19-30, 1998* (University of Toronto, Canada: http://www.ec.gc.ca/education/documents/colloquium/selby.htm - accessed June 2003). This notion is discussed at length in the environmental chapter of this research.

[489] Diagram is adapted and redrawn to match this research subject from several referential sources on diagrams of this kind. For particularly useful diagrams, this research references and samples parts of the social-system diagrams as proposed by Marshall Clemens. Diagram by *Idiagram*, *Inc.* copyright 2002-

2007 (http://www.idiagram.com/ (accessed June 2005). His diagrams are vivid descriptions of social organizations and their systemic relations. However, this research shows here a basic diagrammatic model indicating agential sharing of knowledge and their relations within an overall systemic organization of knowledge and action in regard to each other and to the greater environmental domain. This composite diagram is assembled to reflect this research's previous social and environmental systems diagrams and to lead to the knowledge integration models as proposed in the case study chapter of this research.

[490] Charles S. Peirce, *The Collected Papers of Charles S. Peirce,* ed. C. Hartsthorne, P. Weiss, and A. Burks. (Cambridge: Harvard University Press, 1931-1958); See also Immanuel Kant, *Critique of Pure Reason*, (Section on *Architectonics*), trans. F. Max Mueller (Oxford: Clarendon Press, 1887).

[491] Susanne Langer, *Philosophy in a New Key: A Study in the Symbolism of Reason, Rite, and Art.* (Cambridge: Harvard University Press, 1947).

[492] Leff, Enrique. "Nature, Culture, Sustainability."

[493] Ibid.

[494] Ibid.

[495] Ibid.

[496] Ibid.

[497] We attempt to systemically and rationally 'catch' it (to grasp, understand) to acquire it for use (and meaning, with respect to Wittgenstein).

[498] Henri Lefebvre. *The Production of Space*, trans. Donald Nicholson-Smith. (Oxford: Blackwell, 1991).

[499] Michael Benedikt, *A General Theory of Value – Synopsis.* (Web-based text: http://www.utexas.edu/architecture/center/GenValu/), (Austin: University of Texas Press, 2005)

[500] Douglas R. Anderson, "Peirce's Agape and the Generality of Concern," *International Journal for Philosophy of Religion* 37 (1995): 103-112. Reference: Charles S. Peirce, *The Collected Papers of Charles S. Peirce* (CP 6.464).

[501] Ibid.

[502] Ibid.

[503] Ibid.

[504] Ibid.

[505] Ibid.

[506] Ibid. (CP, 6.476).

[507] Ibid (CP. 5.589.

[508] Enrique Leff,. "Nature, Culture, Sustainability."

[509] Necdet Teymur. *Environmental Discourse.*

[510] Ludwig Wittgenstein. *Culture and Value.*

[511] Ibid. Enrique Leff,. "Nature, Culture, Sustainability."

[512] Inclusive of spiritual or religious meanings or values.

[513] Diana I. Agrest, *Architecture from Without – Theoretical Framings for a Critical Practice.* Cambridge: M.I.T. Press, 1991), 44. Quote from Alison and Peter Smithson statement of the intentions of *Team 10.*

[514] Norman Fosters (Lord), Interview from "The Spirit of Architecture," CNN Intl. Web-series Films, 2009.

[515] Diana I. Agrest, Architecture *from Without*.

[516] This is a result of dramatic increases in trade, cultural, or informational exchange.

[517] Kenneth Frampton. "Critical Regionalism: Modern Architecture and Cultural Identity" in *Modern Architecture*. (New York: Thames and Hudson, 1992); See also: Liane Lefaivre, Alexander Tzonis, *Critical Regionalism: Architecture and Identity in a Globalized World.* (Munich and New York: Prestel, c2003).

[518] Adapted from a conversation with David Wang, co-author of *Architectural Research Methods,* in a visit to Southern Illinois University, June 2005. While sustainability is now being considered inadequate (or insufficient) to a holistic, critical view toward environmental thinking, it at least supplied the initial critique of architectural practices. Sustainability without a key social-cultural aspect is also short in nature. How can a program professing this not make use of it? Should they also teach participate and collaborate with community agencies? To promote such a didactic, there would have to be a re-emphasis

on the embodiment of the critical self in place as a form of co-enabling of identity as it relates immanently with the environment it shares. One would have to draw from the very unique and possibly divergent component structure of the heterogeneous world as a way of rejuvenating a collective episteme. One would have to build devices to filter out vital emphases and connections that have to be maintained (sustained) in a changing society for constructions to become 'anew' within greater global environment, yet still claim identity and authenticity within the critical conditions of very specific contexts. The didactic would have to be able to 'interchange' the very big (the immense, general space) with the specific (place, relational/ontological space, meaning, network locale, identity) in a mutually beneficial way. For this research even the issues of critical environmentalism have to be extended to be able to be grafted into architectural thought. Architectural Education has to 'step up' from mere sustainability to more progressive and even radical renewals of beliefs and modes of environmental practice. It has to promote a more positive and powerful mode of thought, an episteme that refreshes and moves into vital connections with the greater domain.

[519] Steven A. Moore, Critical *and Sustainable Regions in Architecture – The Case of the Blueprint Farm.* (Austin: University of Texas, 1996) (original UMI digital Ph.D. dissertations); and Steven A. Moore, *Place and Technology – The Case of the Blueprint Farm.* (Austin: University of Texas Press, 2001) (the later published version).

[520] Ibid. From this S. Moore derives a "non-modernist manifesto,' supported by some key principles as an alternative to such approaches.

[521] Ibid. Moore promotes the ideals of Kenneth Frampton's hypothesis for Critical Regionalism, stating that it offers "a synthesis to the dualism of *technology* and *place* (as well as the *knowledge* of *practice* and *place*) as constructed by modernistic thought."

[522] While this seems perhaps a re-iteration of the Moore's ideals, it further enhances the notion of regeneration from an environmental perspective, a total *life-space* point of view. This research picks up Moore's proposition that hermeneutical propositions can be applied productively to a regenerative society and environment. One cannot leave behind the critical nature of hermeneutics, that its parts have to be engaged and co-defining. To Moore, the location (in this case, the environment) holds and sets the same essential conditions for both *technology* and *place*. Thought (knowledge, thought in place, as well as its use) supplies meaning in context (Wittgenstein) and practice (thought-in-action). He also refers to Henri Lefebvre (*The Production of Space*) in that social spaces are made distinct by the particular qualities of the mode of production that is employed to construct them (p182).

[523] This idea promotes a dialogic and ethical relation between multiple agents co-forming/co-constructing both their knowledge of the world and the world as epistemic reference.

[524] Necdet Teymur. *Environmental Discourse.* Also similar to Henri Lefebvre, in his *The Production of Space*, Moore proposes to construct a socialist position that is positive, life enhancing. This conceptual position also supports the notion set forth by Michael Benedikt, that a system that supports life is *good*, while one that is dying is *bad*. As an underlying axiological mode for a regenerative thinking model, life is meant to be 'good' and productive, embracing the human desire to foster a good life in accordance with life producing modes.

[525] Ibid. Steven A. Moore, *Place and Technology – The Case of the Blueprint Farm.*

[526] I refer here also to Leibniz's *ars combinatory* synthesis, the art of systemic combination leading to synthesis of parts and whole. It is also important to note here, that this combinatory, emergent mode fosters along the same lines as Peirce's 'creative love' or 'Agapastic creation', - that is, a continuation of the nature of the cosmos to create in a benevolent manner, in lieu of simply logically or mechanically. Such a mode of associated 'care' or even 'friendship,' as also brought forth by Aristotle in his *Nichomachean Ethics*, is distinct humanly-associated and is considered the best form of knowledge and selfless love.

[527] Ibid. Steven A. Moore, *Place and Technology – The Case of the Blueprint Farm.* This idea argues for a participation *with-in* (rather than refusal to engage modernity or even post-modernity) society and nature that is not only 'productive, as Moore argues, but one that is co-productive. For is this regenerative architecture is to work, it has to be participatory and dialogic, co-enabling in a critical, multi-focal manner.

[528] Ibid. This "methodological fit" is one of the "*eight points for the extension of Critical Regionalism as a non-modern manifesto for architectural production*," summarizing the coding filters for interpretation of a discussed case study in South Texas Blueprint Farm. Moore incorporates ethnographic methods to reconstruct a case study to "reflect Critical Constructivist assumptions of the inquiry." To him, "the dialogic structure of the text creates an interpretive exchange" between the author and observing researcher, its local participants, and the literature review that forms an "understanding" of the politics (in three voices) involved in his case study project.

[529] Kenneth Frampton. "Critical Regionalism: Modern Architecture and Cultural Identity," 314-327; See also: Frampton's *Studies in Tectonic Culture* as an extension and analysis of the views; and "Regionalism, A Discussion with Kenneth Frampton and Trevor Boddy," *The Fifth Column*, (Summer, 1983).

[530] Bourdieu. *Pascalian Meditations.* While this correspondence may be self-evident, the social ordering of our epistemological state is another detached abstraction (categorically) altogether.

[531] We have seen this most recently and fervently in the humanities, particularly historians and geographers who have turned towards the spatial dimensions of history and place. This area of discussion seems critical to architectural issues, particularly since space and place are in process by acting agents.

[532] Alberto Pérez-Gómez, "Hermeneutics as Architectural Discourse," *McGill University Studio Catalogues*, 1997; (http://upload.mcgill.ca/architecture-theory/hermeneutics.pdf - accessed June, 2004)

[533] The research is concerned with revealing the knowledge foundationally underlying as well as currently emerging in the epistemic framework of architectural education that relates to critical approaches to environmentalism as a way to graft a substantiating critical epistemology that foster viable working models for critical environmentalism in architectural education.

[534] Ibid. Enrique Leff, "Nature, Culture, Sustainability."

CHAPTER V

[535] Linda Groat and David Wang, *Architectural Research Methods*. (New York: John Wiley and Sons, 2002); Robert E. Stake, "Case Studies" in *Handbook of Qualitative Research*, ed. Denzin, Norman K. and Lincoln, Yvonna S. (Thousand Oaks: Sage, 2000); Stake, Robert E, *The Art of Case Study Research.* (Thousand Oaks, Sage, 1995); Robert K. Yin, Case *Study Research – Design and Methods - Applied Social Research Methods Series*, Volume V. (London: Sage, 1994).

[536] Roland W. Scholz and Olaf Tietje, *Embedded Case Study Methods – Integrating Quantitative and Qualitative Knowledge*. (Thousand Oaks: Sage, 2002). The Department of Environmental Sciences, Swiss Federal Institute of Technology (*ETH*) was founded in 1987 in response to environmental disasters.

[537] Yin, *Case Study Research – Design and Methods*.

[538] Richard E. Palmer, "Gadamer's Recent Work on Language and Philosophy: On 'Zur Phänomenolgie von Ritual und Sprach.' " in *Continental Philosophical Review* 33: 381-393. See also Guba and Lincoln, (1989) and source material in Gadamer's *Truth and Method* (1975).

[539] Hans-Georg Gadamer, *Truth and Method*. trans./ed. Garrett Barden and John Cumming (New York: Seabury, 1975).

[540] Scholz and Tietje, *Embedded Case Study Methods.*

[541] Ibid.

[542] Collin Rowe and Fred Koetter also discusses a *bricolage* approach to urban design in *Collage City* (Cambridge: MIT Press, 1984), a model for post-modern studies in architecture and urban studies.

[543] A reference for these categories can be seen similarly in Kevin Lynch's *Image of the City*. (Cambridge: MIT Press: Cambridge, 1960). These categorical responses are take up in further detail below in the London Lea Valley case study below)

[544] Michael Burawoy, *et al.*, *Ethnography Unbound: Power and Resistance in the Modern Metropolis.* (With respect to H-G Gadamer.)

[545] Deiner, R., Herzog, J., Meili, M., de Meuron, P., Schmid, C, *Die Schweiz – Ein stadtebauliches Portrait.* (Basel: Birkhauser, 2006).

[546] Craig Anz and Christy Poggas. *Regenerative and Interconnected Communities - (4) Embedded Case-Studies and (1) Regional Revitalization Proposal.* Paper presented at InterSymp 2008 - The International

Institute for Advanced Studies (IIAS) in Systems Research and Cybernetics – "1ˢᵗ International Symposium on Architecture of the 21ˢᵗ Century – In Search of New Paradigms," Baden-Baden, Germany (2008, July-August). Also: Special Acknowledgements and thanks to the City/Regional Planning Depts. of Freiburg, Mannheim, Carbondale for their personal insight and knowledge-bases, referenced throughout this research.

[547] From a personal conversation with a past (retired) regional official at the "Making Cities Livable- True Urbanism and the European Town Square" Conference, Venice, Italy(June 2005).

[548] Craig Anz and Christy Poggas. *Regenerative and Interconnected Communities-*

[549] Ibid.

[550] Ibid..

[551] Craig Anz and Christy Poggas. *Regenerative and Interconnected Communities-*.

[552] Ibid. Personal observation and discussion with city officials and inhabitants added to this content.

[553] Parts of this paper were upgraded from a previous research presentation by author titled "Continual Fusion –Blurring Lines Between Divergent Perspectives in the Development of Place: An Urban Regeneration Scenario for London's Lower Lea Valley, presented at the "Site of Cosmopolitanism" Conference – Griffith University, Brisbane, Australia 2005. The inquiry and design sequences are described here as well in regard to multi-media applications in studio settings. The proceedings contain useful comparative views on the subject primarily direct toward social, cosmopolitan settings.

[554] Quoted and referred to from Paul Ricoeur's *Universal Civilization and National Cultures*, 1961, in Kenneth Frampton's "Critical Regionalism: Modern Architecture and Cultural Identity" in *Modern Architecture* (New York: Thames and Hudson, 1992): 314-327.

[555] Ibid. Erlandson *et al,*

[556] Erlandson *et al*, *Doing Naturalistic Research* (1993); and Guba and Lincoln, *Fourth Generation* (1989). See Erlandson (p124), which is "constructivist in nature." See also as outlined in G&L's text (pp142-155) and diagramed (p152).

[557] Ibid.

[558] Ibid.

[559] Jürgen Habermas. *Moral Consciousness and Communicative Action*. Trans. Christian Lenhardt and Shierry Weber Nicholson. (Cambridge: MIT Press, 1990), 116-188.

[560] Hans-Georg Gadamer, *Truth and Method*. (New York: Crossroad, 1989).

[561] Palmer, "Gadamer's Recent Work on Language and Philosophy:"; See also Guba and Lincoln (1989) and source material in Gadamer's *Truth and Method*.

[562] Ibid. Gadamer's *Truth and Method*:

[563] From Maurice Merleau-Ponty's *Phenomenology of Perception,* quoted by Dorothea Olkowski In "Merleau-Ponty and Bergson: The Character of the Phenomenal Field." *In Merleau-Ponty – Difference, Materiality, Painting,* p. 27. To Merleau-Ponti, human perception is in itself a creative process of 'handling the world' (grasping) – making meanings and making ourselves through transactions with the world and with other beings"

[564] Groat and Wang. *Architectural Research Methods*.

[565] Scholz and Tietje, *Embedded Case Study Methods*.

[566] Ibid.

[567] Scholz and Tietje, *Embedded Case Study Methods*. For the corresponding inquiry stages of this section, refer additionally the ETH case study above.

[568] A reference for these categories can be seen similarly in Kevin Lynch's *Image of the City*. (Cambridge: MIT Press: Cambridge, 1960).

[569] Harry Garnham, *Maintaining the Spirit of Place*. (Arizona: PDA, 1985).

[570] Michael Burawoy, *et al*, *Ethnography Unbound: Power and Resistance in the Modern Metropolis.*

[571] William Hillier, *Space is the machine- A Configurational Theory of Architecture.* (Cambridge: Cambridge University Press, 1996).

[572] Mohsen Mostafavi, "Landscapes of Urbanism" in *Landscape Urbanism – A Manual for the Machinic Landscape.* (London: AA Print Studio, 2003)

[573] Danvers. "Towards a Radical Pedagogy:"

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[577] Palmer, "Gadamer's Recent Work on Language and Philosophy:"; See also Gadamer, *Truth and Method* as original source.

[578] Craig Anz and Danisha Lewis, "Applications of Digital Technologies for Increased Participatory Interaction in Urban Design and Community Development Scenarios." (Montana: 2005 Design Communication Association Conference Proceedings, Montana State University, 2005).

[579] Danvers, "Towards a Radical Pedagogy:" To hin, "The development of knowledge, practical skills, cognition, and technical expertise, are also closely interwoven with the development of feeling, perception, confidence, sense or purpose and identity, and a tangible enrichment of lived experience (the *life-space*) – a revitalized (*élan vital*) sense of being, and increase well-being…"

[580] Quoted in Steven P. Schacht's, "The Promise of a Male Feminist Epistemology." Plattsburgh State University of New York. Referenced quote from Alice Walker, *In Search of Our Mothers' Garden*. (New York: Harcourt-Brace-Janovich, 1983), 49.

[581] Christopher Alexander, *et al*. *A New Theory of Urban Design* (New York: Oxford, 1987).

[582] Kevin Lynch, *The Image of the City* (Cambridge: MIT Press, 1978). "Legibility" involving Lynch's basic coding facets: *districts, nodes, edges, landmarks, and paths.*

[583] With respect to Gilbert Ryle and Clifford Geertz's notions of "thick descriptions".

[584] Craig Anz and Benjamin Dockter, "A Spatial Configuration Study of Urban Fabric – Incorporating Digital Simulation Technologies within Design Scenarios" (Baden-Baden, Germany: IIAS, 2007).

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[595] Anz and Dockter, "A Spatial Configuration Study of Urban Fabric."

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[600] Scholz, and Tietje, *Embedded Case Study Methods*

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[603] - Special Acknowledgements and thanks to the City Planning Depts. of Carbondale for their personal insight and knowledge-bases, referenced throughout this research.

CHAPTER VI

[604] James Agee and Walker Evans, *Let Us Now Praise Famous Men.* (Boston: Houghton-Mifflin, 1941).

[605] Robert Mugerauer, *Interpreting Environments – Tradition, Deconstruction, Hermeneutics.* (Austin: University of Texas Press, 1995), xv – xlvi.

[606] Craig Anz and Akel Kahera, "The Life and Death of the Post-war Islamic City - Critical Environmentalism and the Practice of Re-construction," *IIAS-2007 Systems Research and Cybernetics,* Volume I, ed, G. Andonian and G. Lasker. (Proceedings of Symposium on *Advances in Architecture, Urbanity, and Social Sustainability*, Baden-Baden, Germany) (Canada: IIAS, 2007), 79- 84.

[607] Ibid.

[608] Ibid.

[609] Ibid.

[610] Janes Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

[611] Craig Anz and Akel Kahera, "The Life and Death of the Post-war Islamic City."

[612] Many of the ideals here are supported by what is now emerging along similar lines as bio-regionalism, albeit not discussed in full in this research.

[613] Craig Anz, "Critical Environmentalism – An Epistemic Framework for Architectural Education," *Advances in Education, IIAS-2008 Advanced Systems Research and Cybernetics,* Volume VII, ed. G. Andonian and G. Lasker. (Proceedings of 4th Symposium on the *Substantive Professionalization of General Education*, Baden-Baden, Germany) (Canada: IIAS, 2008), 49-55.

[614] Craig Anz and Akel Kahera, "The Life and Death of the Post-war Islamic City." See also Elizabeth Ellsworth's *Places of Learning – Media, Architecture, Pedagogy* (New York and London: Routledge-Falmer, 2005). As brought up previously in this research, she discusses the importance of community leaders and informed, representative advocacy as key to community development.

[615] Re-calling Ludwig Wittgenstein's statement that, 'only in the flow of life, do words gain their meaning' (paraphrased).

[616] Felix Guattari, *Chaosmosis – An Ethico-aesthetic Paradigm,* trans. Paul Bains and Julian Pefanis. (Bloomington and Indianapolis: Indiana University Press, 1995).

[617] Carl Couch, C. and Shing-ling Chen, "Orality, Literacy, and Social Structure." In *Communication and Social Structure.* ed. D. Maines and C. Couch. (Springfield Illinois: Charles C. Thomas, 1988), 155-171.

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